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Dairy Herd Improvement Letter

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July 1981

- USDA Summary of 1980 U.S. Cow Herd Averages
- USDA Summary of 1980 U.S. Goat Herd Averages
- USDA Summary of 1980 Mexican Cow Herd Averages
- Error Counts for 305-Day Lactation Records, 1980

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Dairy Herd Improvement Letter

USDA SUMMARY OF 1980 U.S. COW HERD AVERAGES

By George R. Wiggans¹

Averages for Herds in Official Plans:	14,960 pounds of milk, 553 pounds of fat
Averages for Herds in Nonofficial Plans:	14,080 pounds of milk, 529 pounds of fat

State and national cow-year averages for milk and fat production, feed amounts and cost, and milk value are presented. The averages are from herds that were enrolled in official and nonofficial Dairy Herd Improvement plans during 1980 and had been on test for at least 365 days prior to their last sample day on or before December 31, 1980. The test year for herd average records was changed to correspond to the calendar year. This change was approved at the 1980 Computing Center Workshop and resulted in an overlap of approximately 4 months for the 1979-80 and 1980 test years.²

Production averages from herds in official plans included 89 percent of the herds and 90 percent of the cows enrolled in these plans as of January 1, 1981. Production averages from herds in nonofficial plans that measure fat on an individual cow basis included 87 percent of the herds and 85 percent of the cows enrolled.³ The numbers of cows and herds included are less than 100 percent of total enrollment because a herd's record was not included if the herd had more than one record, fewer than five cows, time on test less than 365 days, average milk production less than 4,000 pounds, average fat production less than 92 pounds, or average percent fat outside the following ranges:

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² U.S. Department of Agriculture. USDA summaries of 1979-80 cow herd averages. U.S. Dept. Agr. Dairy Herd Impr. Ltr. 56(7), pp. 1-21. 1980.

³ Norman, H. D., Myers, E. F., and Dickinson, F. N. National Cooperative Dairy Herd Improvement Program participation report, January 1, 1981. U.S. Dept. Agr. Dairy Herd Impr. Ltr. 57(3), 23 pp. 1981.

Breed:	Percent
Ayrshire-----	2.7 - 6.0
Brown Swiss-----	2.7 - 6.0
Guernsey-----	3.3 - 6.7
Holstein-----	2.5 - 5.0
Jersey-----	3.3 - 7.3
Milking Shorthorn-----	2.7 - 5.9
Other-----	2.3 - 7.3

Percent days in milk is set equal to 84 percent if the reported value is below 70 percent.

Two tables include records that were excluded from the other tables because of the restrictions on fat production. Table 10 summarizes records from nonofficial plans that do not have fat production measured on an individual cow basis (and therefore are not summarized with the other nonofficial plans) and records that had reported fat production outside U.S. Department of Agriculture (USDA) limits. Table 11 reports averages by type of testing plan. These two tables also include information from herds with more than one record reported. One record from each of these herds was used.

Information on amount of feed, feed cost, and income, in addition to milk and fat production, was reported by the Iowa, New York, North Carolina, Pennsylvania, and Washington dairy records processing centers (DRPC's). Averages for this additional information and milk and fat are presented separately for herd records with feeding information. Records with missing or unreasonable amounts of feed, feed costs, or value of product were not included in these averages.

Herd and cow numbers and averages reported in State newsletters may differ from values reported here because of differing limits or reporting periods among States.

1980 Official Plans

Summaries of herds in official plans are given in tables 1-6 for the 1980 test year. The values for cows per herd were calculated by dividing total cow-years by total herds in any grouping.

All herds.--Table 1 gives State and national totals and averages for all herds in official plans. The 2,867,176.9 cow-years in 35,206 herds in official plans averaged 14,960 pounds of milk and 553 pounds of fat. Average percent fat was 3.70, and average percent days in milk was 86. The number of cows per herd averaged 81.4. The increase over production averages from the 1979-80 test year was 174 pounds of milk and 6 pounds of fat.²

Table 2 gives totals and averages by breed and milk level. Of the two Holstein herds with milk levels more than 24,999 pounds, one herd averaged 27,479 pounds of milk, the highest milk production for any herd regardless of breed. Table 3 gives totals and averages by breed and herd size. Of the 2 Holstein herds with more than 3,000 cows, 1 herd had 3,563.9 cow-years, the largest number of cow-years for any herd regardless of breed.

Herd records with feeding information.--Forty-six percent of the herds enrolled in official plans had records with feeding information, a decrease from 49 percent for the 1979-80 test year. These herds included 40 percent of the cow-years in official plans, a

decrease from 43 percent.² The proportion of cow-years was less than the proportion of herds because the records for many large herds had only production data. Table 4 gives State and national totals and averages of records with feeding information for herds in official plans. Average value of product was \$1,851 and average feed cost was \$715; therefore, average income over feed cost was \$1,136, an increase of \$63 over the 1979-80 test year's average.²

Table 5 gives totals and averages by breed and milk level. Table 6 gives totals and averages by breed and herd size.

For some of the records summarized in tables 4-6, the total ration did not include all four types of feed (concentrates, succulent forage, dry forage, and pasture). Therefore, the averages for feeds, cost, and value of product were each calculated only from herds for which the information was reported; consequently, some averages represent fewer cow-years than the total.

1980 Nonofficial Plans

Summaries of herds in nonofficial plans that measure fat production on an individual cow basis are given in tables 7-9 for the 1980 test year. Rhode Island, Puerto Rico, and the Virgin Islands did not have herds in nonofficial plans, and no herd average was submitted for the one commercial herd in Arizona.

Table 7 gives State and national totals and averages. The 980,870.1 cow-years in 19,617 herds in nonofficial plans averaged 14,080 pounds of milk and 529 pounds of fat. Average percent fat was 3.76, and average percent days in milk was 85. The number of cows per herd averaged 50.0. The increase over production averages from the 1979-80 test year was 111 pounds of milk and 2 pounds of fat.²

Table 8 gives totals and averages by breed and milk level. One Holstein herd averaged 23,059 pounds of milk, the highest milk production for any herd on nonofficial test regardless of breed. Table 9 gives totals and averages by breed and herd size. Of the 2 Holstein herds with more than 1,500 cows, 1 herd had 1,651.2 cow-years, the largest number of cow-years for any herd on nonofficial test regardless of breed.

Only the national values are reported for herd records with feeding information because of the low percentage of records from nonofficial plans with feeding information. The summary for this test year is in table 15.

Averages for Herd Records With Missing or Invalid Fat Production or Herd Sampling Instead of Individual Cow Sampling

Table 10 summarizes herds that did not have fat production reported, had average fat production outside USDA limits, or had fat production measured on a herd basis rather than an individual cow basis for the 15 States with 10 or more such herds. Cows in these herds represented about 3 percent of the total cow-years reported here. Florida, Georgia, and New York had the largest number of such herds. For some herds in which samples were not collected for individual cows, the percent fat determined by the milk processing plant was reported. However, "plant" fat test usually was not reported for herd records processed at the North Carolina DRPC.

Averages by Testing Plan and Year

Table 11 is a summary of all herds by testing plan with number of herds and cow-years, average cows per herd, percent days in milk, and milk production. The last three columns are a summary of herds, cow-years, and average fat production for those herds with reported fat production within USDA limits.

Tables 12-17 present a national summary by year for cows in official plans, nonofficial plans, and all cows. Information on all cows was obtained from the USDA Economics, Statistics, and Cooperatives Service. Values in tables 12 and 14 are also in the 1981 participation report.³

Table 12 summarizes totals and averages for all herd records from official plans, and table 13 summarizes totals and averages for herd records from official plans with feeding information; both tables begin with the 1939-40 test year. Table 14 summarizes totals and averages for all records from nonofficial plans, and table 15 summarizes totals and averages for records from nonofficial plans with feeding information; these two tables begin with the 1962-63 test year.

Table 16 compares production of cows in official or nonofficial plans with all other cows, starting with the 1962-63 test year. Cows in official and nonofficial plans for the 1980 test year produced 4,992 and 4,112 pounds more milk, respectively, than cows not enrolled in NCDHIP.

Table 17 presents production and value of product for all cows nationally for 1940 through 1980.

Table 1.--State and national cow-year totals and averages for all official herd records, 1980

State ¹	Herd	Cow-years	Cows per herd	Days in milk	Milk	Fat	Fat
	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Pct</u>	<u>Lb</u>	<u>Pct</u>	<u>Lb</u>
Alabama-----	201	25,189.2	125.3	85	13,187	3.62	477
Alaska-----	2	72.8	36.4	83	14,365	3.77	541
Arizona-----	115	45,689.5	397.3	85	15,548	3.72	579
Arkansas-----	131	8,027.0	61.3	85	12,989	3.53	459
California-----	1,205	431,725.0	358.3	85	16,550	3.73	618
Colorado-----	215	25,905.7	120.5	85	14,523	3.63	527
Connecticut-----	281	21,949.0	78.1	86	15,317	3.68	564
Delaware-----	47	3,963.7	84.3	88	15,543	3.70	575
Florida-----	54	13,937.3	258.1	84	12,538	3.51	440
Georgia-----	267	31,960.5	119.7	85	13,316	3.69	491
Hawaii-----	10	5,773.9	577.4	82	13,890	3.08	428
Idaho-----	403	39,741.8	98.6	86	14,831	3.61	536
Illinois-----	1,059	60,946.2	57.6	86	14,396	3.83	551
Indiana-----	876	51,577.9	58.9	87	14,548	3.77	549
Iowa-----	1,332	66,825.0	50.2	86	14,051	3.79	532
Kansas-----	681	45,898.0	67.4	86	14,150	3.60	510
Kentucky-----	458	29,698.4	64.8	84	12,849	3.74	480
Louisiana-----	272	27,617.7	101.5	84	11,895	3.47	413
Maine-----	383	21,441.6	56.0	86	15,276	3.63	554
Maryland-----	586	49,387.4	84.3	86	14,257	3.73	532
Massachusetts-----	288	17,570.9	61.0	86	14,946	3.67	549
Michigan-----	1,411	108,429.5	76.8	84	15,467	3.69	571
Minnesota-----	3,929	199,337.5	50.7	86	14,510	3.71	539
Mississippi-----	237	22,479.5	94.9	84	12,474	3.60	449
Missouri-----	699	45,889.9	65.7	85	13,825	3.63	502
Montana-----	82	6,512.1	79.4	86	14,261	3.60	514
Nebraska-----	411	28,367.7	69.0	85	13,395	3.67	491
Nevada-----	36	9,665.1	268.5	85	15,079	3.34	504
New Hampshire-----	197	12,038.0	61.1	86	15,070	3.74	563
New Jersey-----	178	13,118.7	73.7	87	15,456	3.72	575
New Mexico-----	46	24,877.3	540.8	84	15,985	3.54	566
New York-----	3,154	211,067.2	66.9	86	15,599	3.65	570
North Carolina---	601	63,224.8	105.2	87	14,844	3.58	531
North Dakota-----	117	6,946.8	59.4	84	12,885	3.52	454
Ohio-----	1,565	95,192.5	60.8	87	14,767	3.82	564
Oklahoma-----	247	18,868.3	76.4	84	14,037	3.64	511
Oregon-----	353	39,425.5	111.7	86	15,219	3.81	580
Pennsylvania-----	3,559	205,251.2	57.7	86	14,950	3.79	566
Puerto Rico-----	117	21,985.9	187.9	79	9,086	3.07	279
Rhode Island-----	25	1,228.1	49.1	85	13,794	3.76	519
South Carolina---	207	28,423.1	137.3	86	13,162	3.91	514
South Dakota-----	224	13,434.6	60.0	85	13,657	3.71	506
Tennessee-----	592	52,838.4	89.3	85	13,818	3.68	509
Texas-----	478	60,957.4	127.5	84	13,979	3.63	507
Utah-----	320	34,074.0	106.5	86	15,503	3.51	544
Vermont-----	906	52,715.2	58.2	86	14,830	3.70	548
Virgin Islands---	3	343.6	114.5	81	8,421	2.75	235
Virginia-----	883	82,681.9	93.6	86	14,805	3.55	526
Washington-----	630	85,701.8	136.0	86	15,925	3.68	586
West Virginia---	168	13,041.3	77.6	86	14,040	3.56	500
Wisconsin-----	4,936	281,821.5	57.1	86	15,316	3.77	577
Wyoming-----	29	2,340.0	80.7	84	13,909	3.52	489
United States---	35,206	2,867,176.9	81.4	86	14,960	3.70	553

¹ Includes Puerto Rico and Virgin Islands.

Table 2.--National cow-year totals and averages for all official herd records, by breed and milk level, 1980

Milk level	Herds	Cow-years	Cows per herd	Days in milk	Milk	Fat	Pct
Lb	Number	Number	Number	Pct	Lb	Pct	Lb
Ayrshire							
Less than 7,000---	2	78.3	39.2	75	6,592	3.88	256
7,000 - 7,999---	3	83.3	27.8	79	7,739	3.92	303
8,000 - 8,999---	9	470.8	52.3	80	8,731	3.89	340
9,000 - 9,999---	31	1,090.6	35.2	83	9,424	3.96	373
10,000 - 10,999---	58	2,627.0	45.3	83	10,530	4.00	421
11,000 - 11,999---	80	3,226.8	40.3	85	11,500	3.97	457
12,000 - 12,999---	91	4,432.5	48.7	84	12,475	3.92	489
13,000 - 13,999---	79	3,456.8	43.8	85	13,453	3.91	526
14,000 - 14,999---	35	1,619.7	46.3	86	14,404	3.93	566
15,000 - 15,999---	19	692.9	36.5	86	15,586	3.84	599
16,000 - 16,999---	8	319.7	40.0	86	16,480	3.95	651
17,000 - 17,999---	1	21.5	21.5	90	17,768	3.52	626
18,000 - 18,999---	1	136.4	136.4	87	18,916	3.78	715
Total or average-----	417	18,256.3	43.8	84	12,296	3.94	484
Brown Swiss							
Less than 7,000---	3	100.6	33.5	84	5,355	4.26	228
7,000 - 7,999---	9	431.5	47.9	81	7,790	3.75	292
8,000 - 8,999---	16	890.1	55.6	81	8,556	4.08	349
9,000 - 9,999---	32	1,496.4	46.8	83	9,551	4.06	388
10,000 - 10,999---	67	2,813.2	42.0	84	10,578	3.95	418
11,000 - 11,999---	98	4,856.5	49.6	85	11,519	4.11	473
12,000 - 12,999---	119	5,121.8	43.0	86	12,543	4.11	516
13,000 - 13,999---	97	4,622.1	47.7	86	13,418	4.10	550
14,000 - 14,999---	62	3,418.3	55.1	86	14,479	4.10	593
15,000 - 15,999---	31	1,577.3	50.9	87	15,499	4.04	626
16,000 - 16,999---	15	1,197.2	79.8	88	16,504	3.98	657
17,000 - 17,999---	4	281.7	70.4	90	17,357	3.96	687
Total or average-----	553	26,806.7	48.5	85	12,548	4.07	511
Guernsey							
Less than 7,000---	10	492.0	49.2	76	6,231	4.62	288
7,000 - 7,999---	29	1,284.6	44.3	84	7,670	4.71	361
8,000 - 8,999---	69	3,551.1	51.5	83	8,475	4.55	386
9,000 - 9,999---	172	9,378.7	54.5	85	9,521	4.72	449
10,000 - 10,999---	251	14,516.5	57.8	86	10,539	4.65	490
11,000 - 11,999---	210	11,430.7	54.4	87	11,475	4.70	539
12,000 - 12,999---	153	9,141.3	59.7	87	12,482	4.68	584
13,000 - 13,999---	75	4,417.0	58.9	88	13,468	4.66	628
14,000 - 14,999---	21	1,714.6	81.6	88	14,476	4.46	645
15,000 - 15,999---	8	393.5	49.2	89	15,318	4.68	717
16,000 - 16,999---	3	107.5	35.8	86	16,529	4.77	789
Total or average-----	1,001	56,427.5	56.4	86	11,035	4.67	515
Holstein							
Less than 7,000---	30	3,273.7	109.1	77	6,569	3.33	219
7,000 - 7,999---	66	6,635.2	100.5	78	7,641	3.30	252
8,000 - 8,999---	121	9,311.8	77.0	79	8,559	3.52	301
9,000 - 9,999---	333	24,939.3	74.9	80	9,538	3.52	336
10,000 - 10,999---	707	52,119.2	73.7	82	10,570	3.62	383
11,000 - 11,999---	1,461	100,590.6	68.9	83	11,553	3.64	420
12,000 - 12,999---	2,500	184,309.7	73.7	84	12,545	3.65	458
13,000 - 13,999---	4,011	287,848.4	71.8	85	13,532	3.67	496
14,000 - 14,999---	5,413	426,293.9	78.8	86	14,516	3.66	532
15,000 - 15,999---	5,757	492,037.0	85.5	86	15,495	3.65	566
16,000 - 16,999---	4,874	437,836.7	89.8	86	16,481	3.65	602
17,000 - 17,999---	3,166	313,311.9	99.0	86	17,470	3.65	637
18,000 - 18,999---	1,554	152,892.1	98.4	87	18,431	3.61	666
19,000 - 19,999---	670	72,868.2	108.8	87	19,385	3.62	701
20,000 - 20,999---	243	25,621.7	105.4	87	20,388	3.62	739
21,000 - 21,999---	73	11,632.3	159.3	87	21,486	3.57	766
22,000 - 22,999---	20	2,185.6	109.3	90	22,434	3.62	811
23,000 - 23,999---	6	1,785.0	297.5	87	23,437	3.66	858
24,000 - 24,999---	2	77.2	38.6	87	24,255	3.68	893
More than 24,999--	2	330.8	165.4	90	27,231	3.45	939
Total or average-----	31,009	2,605,900.3	84.0	86	15,318	3.65	559

Table 2.—National cow-year totals and averages for all official herd records, by breed and milk level, 1980--Con.

Milk level	Herd	Cow-years	Cows per herd	Days in milk	Milk	Fat	Fat
Lb	Number	Number	Number	Pct	Lb	Pct	Lb
Jersey							
Less than 7,000---	31	1,762.8	56.9	80	6,403	4.78	306
7,000 - 7,999---	80	4,582.2	57.3	83	7,574	4.89	370
8,000 - 8,999---	183	13,111.5	71.6	84	8,550	4.67	416
9,000 - 9,999---	299	19,313.7	64.6	85	9,505	4.66	462
10,000 - 10,999---	349	23,392.4	67.0	86	10,540	4.89	515
11,000 - 11,999---	263	22,412.9	85.2	87	11,464	4.95	567
12,000 - 12,999---	129	10,632.1	82.4	86	12,327	4.88	602
13,000 - 13,999---	53	5,135.4	96.9	87	13,376	4.87	651
14,000 - 14,999---	15	906.8	60.5	87	14,373	4.85	697
15,000 - 15,999---	3	193.3	64.4	88	15,375	4.92	757
Total or average-----	1,405	101,443.1	72.2	86	10,458	4.89	511
Milking Shorthorn							
Less than 7,000---	2	95.5	47.8	81	6,543	3.48	228
7,000 - 7,999---	4	140.7	35.2	80	7,704	3.83	295
8,000 - 8,999---	8	252.3	31.5	81	8,481	3.64	309
9,000 - 9,999---	8	277.0	34.6	84	9,590	3.76	361
10,000 - 10,999---	23	867.0	37.7	81	10,434	3.68	384
11,000 - 11,999---	16	543.5	34.0	83	11,513	3.62	417
12,000 - 12,999---	8	215.9	27.0	85	12,460	3.77	470
13,000 - 13,999---	6	257.6	42.9	84	13,314	3.70	492
14,000 - 14,999---	2	48.1	24.1	87	14,125	3.78	534
16,000 - 16,999---	1	5.7	5.7	88	16,614	3.55	590
Total or average-----	78	2,703.3	34.7	82	10,618	3.68	391
Mixed and other breeds							
Less than 7,000---	9	478.5	53.2	77	6,545	4.24	278
7,000 - 7,999---	15	812.5	54.2	83	7,722	3.98	307
8,000 - 8,999---	30	2,399.4	80.0	82	8,488	4.02	341
9,000 - 9,999---	64	3,391.8	53.0	82	9,569	4.13	395
10,000 - 10,999---	83	5,588.5	67.3	84	10,569	4.01	424
11,000 - 11,999---	121	9,659.6	79.8	84	11,462	3.94	452
12,000 - 12,999---	137	9,144.1	66.7	85	12,517	3.96	496
13,000 - 13,999---	108	8,804.7	81.5	86	13,499	3.87	522
14,000 - 14,999---	83	5,354.5	64.5	86	14,421	3.73	538
15,000 - 15,999---	51	5,445.9	106.8	86	15,378	3.55	546
16,000 - 16,999---	28	3,501.3	125.0	84	16,339	3.64	594
17,000 - 17,999---	11	955.9	66.9	86	17,392	3.58	622
18,000 - 18,999---	2	52.4	26.2	90	18,825	3.71	699
20,000 - 20,999---	1	50.6	50.6	89	20,057	3.29	660
Subtotals:							
Red Dane-----	1	77.8	77.8	83	12,411	4.25	527
Red and White--	23	1,241.6	54.0	86	15,355	3.67	564
Mixed-----	719	54,320.3	75.5	85	12,259	3.94	483
Total or average-----	743	55,639.7	74.9	85	12,619	3.84	485

Table 3.--National cow-year totals and averages for all official herd records, by breed and herd size, 1980

Herd size		Herd	Cow-years	Cows per herd	Days in milk	Milk	Fat	Fat
Number		Number	Number	Number	Pct	Lb	Pct	Lb
Ayrshire								
5.0 -	25----	111	1,623.5	14.6	85	12,404	3.92	486
25.1 -	50----	172	6,353.6	36.9	84	12,030	3.93	473
50.1 -	75----	88	5,338.1	60.7	84	12,213	3.91	477
75.1 -	100----	26	2,165.6	83.3	85	12,332	3.91	482
100.1 -	150----	15	1,746.7	116.4	86	13,545	4.02	544
150.1 -	200----	2	353.5	176.8	84	13,282	3.89	517
200.1 -	300----	3	675.3	225.1	86	11,338	4.13	468
Brown Swiss								
5.0 -	25----	116	1,841.5	15.9	85	12,232	4.06	497
25.1 -	50----	252	9,396.0	37.3	86	12,198	4.08	498
50.1 -	75----	109	6,509.5	59.7	86	12,654	4.08	516
75.1 -	100----	35	3,055.4	87.3	85	13,168	4.09	539
100.1 -	150----	30	3,528.2	117.6	84	12,443	4.07	506
150.1 -	200----	6	1,035.0	172.5	85	13,171	4.15	546
200.1 -	300----	3	798.4	266.1	86	16,076	3.91	629
300.1 -	400----	2	642.7	321.4	83	9,730	3.74	364
Guernsey								
5.0 -	25----	136	2,134.6	15.7	86	10,945	4.64	508
25.1 -	50----	445	16,794.9	37.7	87	10,762	4.69	505
50.1 -	75----	239	14,393.8	60.2	86	11,079	4.68	519
75.1 -	100----	95	8,099.5	85.3	86	11,219	4.67	524
100.1 -	150----	45	5,401.8	120.0	87	10,978	4.72	518
150.1 -	200----	24	4,053.2	168.9	85	11,297	4.65	525
200.1 -	300----	9	2,292.0	254.7	85	11,846	4.36	517
300.1 -	400----	5	1,631.1	326.2	85	10,864	4.60	500
400.1 -	500----	1	406.4	406.4	81	9,543	4.40	420
500.1 -	750----	2	1,220.2	610.1	83	11,786	4.59	541
Holstein								
5.0 -	25----	1,151	22,505.6	19.6	86	14,706	3.67	540
25.1 -	50----	10,690	419,010.0	39.2	86	14,938	3.68	550
50.1 -	75----	8,851	539,847.2	61.0	86	15,145	3.66	555
75.1 -	100----	4,278	368,011.0	86.0	86	15,072	3.64	549
100.1 -	150----	3,297	396,147.1	120.2	86	15,049	3.62	545
150.1 -	200----	1,077	184,765.9	171.6	86	15,184	3.62	549
200.1 -	300----	841	201,645.8	239.8	85	15,263	3.62	552
300.1 -	400----	327	111,891.8	342.2	85	15,807	3.64	575
400.1 -	500----	155	69,290.7	447.0	85	15,814	3.62	573
500.1 -	750----	197	117,845.5	598.2	84	16,674	3.65	609
750.1 -	1,000----	67	59,190.4	883.4	84	16,859	3.64	614
1,000.1 -	1,250----	35	38,610.2	1,103.1	84	17,061	3.66	625
1,250.1 -	1,500----	17	23,229.9	1,366.5	84	17,283	3.71	642
1,500.1 -	2,000----	15	24,839.3	1,656.0	85	16,233	3.64	591
2,000.1 -	3,000----	9	22,233.7	2,470.4	84	16,385	3.62	593
More than	3,000----	2	6,836.2	3,418.1	83	15,301	3.42	524
Jersey								
5.0 -	25----	207	3,286.8	15.9	85	10,007	4.83	483
25.1 -	50----	462	17,241.4	37.3	86	10,288	4.86	500
50.1 -	75----	299	18,442.4	61.7	86	10,312	4.87	502
75.1 -	100----	173	14,924.3	86.3	86	10,424	4.88	509
100.1 -	150----	151	18,242.7	120.8	86	10,360	4.90	508
150.1 -	200----	54	9,335.0	172.9	85	10,451	4.92	514
200.1 -	300----	31	7,625.6	246.0	85	10,550	4.84	511
300.1 -	400----	15	5,252.2	350.1	84	10,935	4.92	538
400.1 -	500----	7	3,182.0	458.6	86	10,605	4.98	528
500.1 -	750----	5	2,926.1	585.2	86	12,052	5.09	613
750.1 -	1,000----	1	984.6	984.6	87	11,651	4.88	568
Milking Shorthorn								
5.0 -	25----	31	514.3	16.6	82	10,827	3.70	401
25.1 -	50----	32	1,172.2	36.6	82	10,300	3.66	377
50.1 -	75----	10	582.5	58.3	83	11,019	3.67	404
75.1 -	100----	4	322.6	80.7	84	10,747	3.77	405
100.1 -	150----	1	111.7	111.7	75	10,526	3.77	397
Mixed and other breeds								
5.0 -	25----	71	1,171.2	16.5	85	11,869	3.92	465
25.1 -	50----	269	10,210.8	38.0	85	12,315	3.92	483
50.1 -	75----	178	10,762.2	60.5	85	12,268	3.87	475
75.1 -	100----	102	8,875.0	87.0	85	12,479	3.89	486
100.1 -	150----	69	8,207.4	118.9	85	12,526	3.84	481
150.1 -	200----	24	4,136.9	172.4	85	12,883	3.88	500
200.1 -	300----	12	2,803.6	233.6	85	12,586	3.94	496
300.1 -	400----	11	3,810.0	346.4	84	12,629	3.90	492
400.1 -	500----	2	815.8	407.9	82	12,067	4.15	501
500.1 -	750----	2	1,709.1	854.6	84	13,309	3.58	477
750.1 -	1,000----	3	3,137.7	1,045.9	82	15,170	3.33	505

Table 4.--State and national cow-year totals and averages for herds on official test with feeding information reported, 1980¹

State ²	Herds	Cow- years	Cows per herd	Days in milk	Milk	Fat	Fat	Conc	Succ for- age	Dry for- age	Pas- ture days	Cost of conc	Feed cost	Feed cost/ cwt milk	Value of product	Income over feed cost
	Number	Number	Number	Pct	Lb	Pct	Lb	Cwt	Cwt	Cwt	Number	Dol	Dol	Dol	Dol	Dol
Alabama-----	177	22,560.8	127.5	85	13,114	3.62	475	63	123	17	162	543	820	5.87	1,789	969
Arkansas-----	129	7,912.3	61.3	85	12,939	3.54	458	59	49	51	176	459	719	5.60	1,635	916
Connecticut-----	241	18,148.7	75.3	86	15,182	3.68	559	59	198	21	28	517	808	5.09	1,991	1,182
Delaware-----	34	2,574.6	75.7	88	15,390	3.69	568	49	185	19	35	386	638	4.17	2,044	1,406
Florida-----	46	12,263.1	266.6	84	12,378	3.52	436	96	59	16	136	709	882	5.89	1,905	1,023
Georgia-----	238	28,406.3	119.4	85	13,301	3.69	491	69	150	16	129	579	839	5.90	1,866	1,027
Idaho-----	148	13,928.8	94.1	85	14,883	3.60	536	60	65	78	12	402	735	4.75	1,774	1,040
Illinois-----	1,056	60,836.8	57.6	86	14,390	3.82	550	54	109	38	46	305	556	3.90	1,773	1,217
Indiana-----	827	48,510.6	58.7	87	14,525	3.77	548	59	139	35	41	404	705	4.85	1,836	1,131
Iowa-----	1,329	66,625.1	50.1	86	14,041	3.79	532	54	102	43	45	288	539	3.89	1,684	1,145
Kansas-----	670	45,182.4	67.4	86	14,127	3.61	510	65	99	49	55	401	690	4.93	1,723	1,032
Kentucky-----	438	28,023.1	64.0	84	12,842	3.74	480	53	130	26	115	403	640	5.01	1,632	992
Louisiana-----	261	26,544.5	101.7	84	11,831	3.49	413	59	28	31	325	488	692	5.72	1,588	897
Maine-----	337	18,113.4	53.7	86	15,069	3.64	549	60	131	30	79	545	816	5.23	2,009	1,193
Massachusetts-----	248	14,381.1	58.0	86	14,549	3.68	536	56	152	29	65	489	789	5.29	1,977	1,188
Mississippi-----	231	21,997.5	95.2	84	12,489	3.60	450	56	104	19	258	459	673	5.47	1,647	975
Missouri-----	683	44,785.9	65.6	85	13,765	3.63	500	58	80	48	116	416	701	5.12	1,680	979
Nebraska-----	409	28,205.1	69.0	85	13,367	3.67	490	58	102	47	36	330	593	4.50	1,600	1,007
New Hampshire-----	158	9,379.9	59.4	86	14,929	3.76	561	58	162	26	62	503	776	5.15	2,004	1,228
New Jersey-----	166	12,039.4	72.5	87	15,283	3.72	569	57	131	20	55	439	728	4.74	1,961	1,233
New York-----	2,962	195,723.6	66.1	86	15,546	3.65	568	58	138	26	70	440	710	4.56	1,985	1,275
North Carolina-----	499	51,148.5	102.5	87	14,742	3.59	529	59	195	15	56	511	837	5.14	1,999	1,162
North Dakota-----	117	6,946.8	59.4	84	12,885	3.52	454	55	80	54	50	273	543	4.26	1,490	947
Oklahoma-----	239	18,381.5	76.9	84	13,982	3.64	509	60	62	55	146	420	723	5.11	1,780	1,057
Oregon-----	88	8,796.9	100.0	86	14,733	3.80	560	53	95	52	67	410	770	4.78	1,808	1,037
Pennsylvania-----	3,402	195,087.2	57.3	86	14,887	3.79	564	62	146	31	66	435	721	4.84	1,922	1,200
Puerto Rico-----	11	2,248.9	204.4	80	9,086	3.10	282	40	67	3	304	371	615	6.84	1,723	1,108
Rhode Island-----	21	959.5	45.7	86	13,620	3.85	525	50	130	31	94	435	770	5.53	1,869	1,099
South Carolina-----	192	26,790.1	139.5	86	13,106	3.92	514	57	163	16	164	481	806	5.75	1,841	1,035
South Dakota-----	224	13,434.6	60.0	85	13,657	3.71	506	55	98	50	24	260	505	3.75	1,626	1,121
Tennessee-----	559	49,565.3	88.7	85	13,707	3.69	506	56	175	17	86	485	786	5.47	1,834	1,048
Texas-----	413	51,989.4	125.9	84	13,818	3.65	504	67	38	56	155	507	814	5.43	1,873	1,059
Vermont-----	785	45,437.0	57.9	86	14,737	3.71	547	54	104	24	87	479	728	4.97	1,957	1,229
Virginia-----	776	71,808.4	92.5	86	14,719	3.55	522	53	173	15	100	455	756	5.10	1,890	1,133
West Virginia-----	158	12,157.8	76.9	86	14,041	3.56	500	56	141	20	101	445	676	4.85	1,805	1,128
United States-----	18,272	1,280,894.9	70.1	86	14,359	3.69	530	59	126	31	87	437	715	4.90	1,851	1,136

¹ Feed and cost information is not reported by some processing centers.² Includes Puerto Rico.

Table 5.--National cow-year totals and averages for herds on official test with feeding information reported, by breed and milk level, 1980¹

Milk level	Herds	Cow-years	Cows per herd	Days in milk	Milk	Fat	Fat	Conc	Succ for age	Dry for age	Passure days	Cost of conc	Feed cost	Feed cost/cwt milk	Value of product	Income over feed cost
Lb	Number	Number	Number	Pct	Lb	Pct	Lb	Cwt	Cwt	Cwt	Number	Dol	Dol	Dol	Dol	Dol
Ayrshire																
Less than 7,000----	2	78.3	39.2	75	6,592	3.88	256	29	30	36	304	255	426	6.48	928	503
7,000 - 7,999----	2	78.3	39.2	79	7,780	3.88	302	32	183	68	308	292	493	6.33	1,057	565
8,000 - 8,999----	5	276.6	55.3	80	8,684	3.85	334	41	135	72	116	332	601	6.92	1,120	518
9,000 - 9,999----	23	842.4	36.6	82	9,444	3.95	373	43	79	42	140	294	516	5.46	1,221	705
10,000 - 10,999----	36	1,665.1	46.3	83	10,519	3.98	419	45	108	35	156	343	582	5.53	1,373	791
11,000 - 11,999----	51	2,005.2	39.3	84	11,472	3.97	455	45	106	35	136	329	589	5.14	1,502	913
12,000 - 12,999----	58	2,824.3	48.7	84	12,497	3.95	494	53	110	38	139	401	632	5.06	1,663	1,031
13,000 - 13,999----	55	2,382.3	43.3	85	13,468	3.94	530	54	128	34	138	436	698	5.19	1,795	1,097
14,000 - 14,999----	27	1,209.7	44.8	86	14,368	3.92	563	54	126	44	97	422	689	4.80	1,865	1,176
15,000 - 15,999----	10	319.1	31.9	87	15,521	3.88	602	60	106	39	157	508	763	4.91	2,070	1,307
16,000 - 16,999----	6	231.0	38.5	85	16,602	3.93	653	57	188	21	57	451	708	4.27	2,173	1,465
17,000 - 17,999----	1	21.5	21.5	90	17,768	3.52	626	65	--	43	131	610	780	4.39	2,287	1,507
Total or average-----	276	11,933.8	43.2	84	12,228	3.94	482	50	113	38	139	383	631	5.21	1,612	981
Brown Swiss																
Less than 7,000----	2	82.9	41.5	84	5,391	4.32	233	21	32	73	144	142	371	6.96	701	330
7,000 - 7,999----	5	366.5	73.3	81	7,837	3.70	290	68	107	38	257	409	512	6.55	1,072	560
8,000 - 8,999----	10	360.3	36.0	80	8,596	3.99	343	46	79	41	150	302	504	5.84	1,082	578
9,000 - 9,999----	21	920.5	43.8	83	9,510	4.06	386	47	83	57	168	348	590	6.20	1,221	631
10,000 - 10,999----	42	1,853.4	44.1	85	10,592	3.92	415	56	115	44	143	369	625	5.82	1,402	777
11,000 - 11,999----	59	2,794.2	47.4	85	11,599	4.06	467	49	101	45	154	333	590	5.14	1,514	924
12,000 - 12,999----	67	2,611.2	39.0	87	12,547	4.11	516	52	116	47	150	340	614	4.89	1,641	1,027
13,000 - 13,999----	50	2,311.3	46.2	87	13,382	4.11	550	55	125	49	128	363	651	4.68	1,752	1,101
14,000 - 14,999----	29	1,515.4	52.3	86	14,420	4.07	587	59	103	45	198	450	767	4.65	1,944	1,177
15,000 - 15,999----	13	873.6	67.2	87	15,531	3.99	619	61	131	38	245	414	798	5.14	2,085	1,287
16,000 - 16,999----	5	213.6	42.7	88	16,577	4.07	675	63	118	42	126	519	801	4.84	2,221	1,419
17,000 - 17,999----	2	168.8	84.4	92	17,151	3.95	678	52	68	46	---	294	482	2.81	2,100	1,618
Total or average-----	305	14,071.7	46.1	85	12,259	4.05	497	54	109	46	162	365	638	5.16	1,615	977
Guernsey																
Less than 7,000----	5	283.4	56.7	76	6,433	4.52	291	36	95	35	261	255	460	7.17	915	455
7,000 - 7,999----	13	627.1	48.2	85	7,643	4.62	353	38	75	29	232	293	502	6.53	1,104	603
8,000 - 8,999----	37	2,220.9	60.0	83	8,476	4.50	381	39	106	33	215	301	547	6.46	1,222	674
9,000 - 9,999----	90	4,412.7	49.0	86	9,534	4.68	446	43	98	37	162	300	533	5.60	1,345	812
10,000 - 10,999----	122	7,298.0	59.8	86	10,514	4.58	482	48	110	29	190	361	590	5.62	1,515	925
11,000 - 11,999----	99	5,188.2	52.4	87	11,555	4.68	541	50	110	32	174	379	635	5.49	1,666	1,031
12,000 - 12,999----	70	3,439.6	49.1	88	12,476	4.70	586	51	121	31	134	385	639	5.11	1,785	1,146
13,000 - 13,999----	41	2,135.7	52.1	88	13,422	4.71	632	53	116	33	152	359	676	5.03	1,944	1,268
14,000 - 14,999----	4	263.6	65.9	90	14,383	4.58	659	58	113	34	---	380	611	4.26	1,997	1,386
16,000 - 16,999----	2	50.5	25.3	87	16,185	4.65	752	69	136	23	192	584	817	5.06	2,420	1,604
Total or average-----	483	25,919.7	53.7	86	10,817	4.64	502	47	109	32	175	353	596	5.57	1,552	956
Holstein																
Less than 7,000----	12	879.6	73.3	80	6,741	3.52	237	39	56	45	249	304	485	7.20	990	505
7,000 - 7,999----	28	1,496.1	53.4	80	7,535	3.64	274	34	85	34	223	250	482	6.41	998	516
8,000 - 8,999----	81	5,572.8	68.8	79	8,621	3.64	314	44	108	39	210	329	551	6.29	1,185	634
9,000 - 9,999----	215	14,403.1	67.0	81	9,575	3.61	346	45	103	39	200	332	568	5.72	1,243	675
10,000 - 10,999----	468	34,264.8	73.2	82	10,570	3.63	384	50	120	39	184	365	619	5.82	1,367	748
11,000 - 11,999----	923	65,544.9	71.0	83	11,561	3.62	419	53	120	40	185	385	650	5.52	1,488	838
12,000 - 12,999----	1,484	110,462.5	74.4	84	12,533	3.63	455	56	131	36	171	414	676	5.26	1,614	938
13,000 - 13,999----	2,207	157,046.4	71.2	85	13,527	3.64	492	57	135	36	154	419	699	5.03	1,728	1,029
14,000 - 14,999----	2,854	210,300.6	73.7	86	14,508	3.63	527	60	143	35	141	439	720	4.78	1,855	1,135
15,000 - 15,999----	2,818	205,987.6	73.1	86	15,496	3.63	563	61	150	33	136	458	750	4.69	1,983	1,233
16,000 - 16,999----	2,269	161,498.7	71.2	87	16,475	3.61	595	63	155	33	122	469	764	4.46	2,099	1,334
17,000 - 17,999----	1,454	103,045.2	70.9	87	17,441	3.61	629	66	157	34	125	458	791	4.36	2,218	1,427
18,000 - 18,999----	662	45,593.6	68.9	88	18,407	3.61	665	70	158	34	122	521	819	4.10	2,342	1,523
19,000 - 19,999----	254	17,302.2	68.1	88	19,394	3.59	696	70	156	37	113	523	833	3.88	2,456	1,623
20,000 - 20,999----	74	4,562.2	61.7	88	20,380	3.62	738	72	149	40	120	565	869	3.68	2,601	1,732
21,000 - 21,999----	13	833.0	64.1	88	21,289	3.49	744	68	148	26	103	552	869	2.84	2,702	1,832
22,000 - 22,999----	3	102.7	34.2	90	22,244	3.51	780	70	132	47	---	446	807	3.63	2,668	1,861
Total or average-----	15,819	1,138,896.0	72.0	86	14,769	3.62	535	60	143	35	147	444	727	4.81	1,888	1,161
Jersey																
Less than 7,000----	22	1,220.6	55.5	81	6,435	4.68	301	37	36	35	267	280	418	6.51	942	525
7,000 - 7,999----	53	3,481.7	65.7	82	7,581	4.84	367	42	87	31	211	332	515	6.79	1,105	590
8,000 - 8,999----	121	8,687.8	71.8	84	8,558	4.79	410	42	80	29	209	329	526	6.15	1,260	734
9,000 - 9,999----	192	13,221.3	68.9	85	9,517	4.80	457	48	86	30	192	377	585	6.14	1,409	824
10,000 - 10,999----	223	13,817.6	62.0	86	10,552	4.78	504	46	101	28	187	375	593	5.57	1,549	957
11,000 - 11,999----	164	11,083.5	67.6	87	11,414	4.85	554	50	106	28	151	413	645	5.66	1,679	1,034
12,000 - 12,999----	71	4,338.4	61.1	87	12,346	4.78	590	54	96	24	198	452	673	5.46	1,831	1,158
13,000 - 13,999----	36	3,093.3	85.9	87	13,453	4.71	634	53	119	26	182	449	713	5.30	2,001	1,288
14,000 - 14,999----	9	496.5	55.2	88	14,441	4.78	690	57	90	31	187	473	705	4.89	2,068	1,362
15,000 - 15,999----	3	193.3	64.4	88	15,375	4.92	757	70	102	32	242	526	725	4.71	2,315	1,590
Total or average-----	894	59,634.0	66.7	85	10,264	4.79	492	47	95	28	189	382	596	5.86	1,513	916

See footnote at end of table.

Table 5.--National cow-year totals and averages for herds on official test with feeding information reported, by breed and milk level, 1980:--Con.

Milk level	Herds	Cow-years	Cows per herd	Days in milk	Milk	Fat	Fat	Conc	Succ for- age	Dry for- age	Pas- ture days	Cost of conc	Feed cost	Feed cost/ cwt milk	Value of product	Income over feed cost
Lb	Number	Number	Number	Pct	Lb	Pct	Lb	Cwt	Cwt	Cwt	Number	Dol	Dol	Dol	Dol	Dol
Milking Shorthorn																
Less than 7,000---	2	95.5	47.8	81	6,543	3.48	228	25	17	75	178	195	455	6.96	673	218
7,000 - 7,999---	4	140.7	35.2	80	7,704	3.83	295	29	98	38	91	196	415	5.38	907	492
8,000 - 8,999---	6	207.5	34.6	81	8,495	3.60	306	28	89	55	177	193	414	4.67	1,024	610
9,000 - 9,999---	6	197.9	33.0	84	9,494	3.69	350	41	88	45	158	248	498	5.25	1,157	659
10,000 - 10,999---	11	432.4	39.3	81	10,482	3.67	385	34	61	51	181	207	436	4.16	1,221	785
11,000 - 11,999---	10	324.2	32.4	82	11,538	3.60	415	44	62	49	146	324	548	4.74	1,405	856
12,000 - 12,999---	5	139.3	27.9	85	12,318	3.70	456	41	97	44	138	320	564	4.59	1,502	938
13,000 - 13,999---	1	53.3	53.3	84	13,429	3.66	492	46	28	81	235	360	800	5.56	1,654	854
14,000 - 14,999---	2	48.1	24.1	87	14,125	3.78	534	56	74	45	98	290	587	4.16	1,749	1,162
Total or average-----	47	1,638.9	34.9	82	10,211	3.66	374	37	70	51	157	249	489	4.66	1,219	730
Mixed and other breeds																
Less than 7,000---	8	459.8	57.5	77	6,616	4.26	282	37	61	51	294	261	453	6.88	883	430
7,000 - 7,999---	11	616.8	56.1	82	7,769	3.96	308	46	59	55	242	320	554	7.12	1,023	469
8,000 - 8,999---	22	1,558.1	70.8	82	8,560	3.93	336	46	75	49	173	338	584	6.81	1,170	587
9,000 - 9,999---	39	2,109.4	54.1	83	9,579	4.02	385	47	72	43	194	360	576	6.02	1,262	687
10,000 - 10,999---	58	3,940.9	67.9	84	10,634	3.86	411	64	100	33	248	462	665	6.25	1,461	796
11,000 - 11,999---	80	6,270.8	78.4	84	11,482	3.85	442	65	100	34	202	484	688	5.99	1,564	876
12,000 - 12,999---	82	4,722.2	57.6	86	12,459	3.89	485	54	110	39	182	392	652	5.23	1,639	987
13,000 - 13,999---	63	4,494.9	71.3	86	13,493	3.90	526	57	136	32	219	436	703	5.21	1,789	1,086
14,000 - 14,999---	46	2,522.1	54.8	87	14,374	3.83	551	59	135	35	155	449	738	5.04	1,883	1,146
15,000 - 15,999---	24	1,391.1	58.0	87	15,527	3.75	583	59	158	23	118	465	763	4.45	2,019	1,255
16,000 - 16,999---	9	502.1	55.8	87	16,195	3.61	584	64	139	35	80	462	722	4.46	1,989	1,267
17,000 - 17,999---	5	187.5	37.5	88	17,463	3.60	628	65	114	31	92	503	747	4.28	2,157	1,410
18,000 - 18,999---	1	25.1	25.1	90	18,670	3.85	718	39	45	55	144	130	370	1.98	2,466	2,096
Total or average-----	448	28,800.8	64.3	85	11,961	3.87	463	58	110	36	196	430	669	5.66	1,594	924

¹ Dashes indicate feed not included in ration.

Table 6.--National cow-year totals and averages for herds on official test with feeding information reported, by breed and herd size, 1980¹

Herd size		Herds	Cow-years	Cows per herd	Days in milk	Milk	Fat	Fat	Conc	Succ for-age	Dry for-age	Pas-ture days	Cost of conc	Feed cost	Feed cost/cwt milk	Value of product	Income over feed cost
Number	Number			Number	Pct	Lb	Pct	Lb	Cwt	Cwt	Cwt	Number	DoI	DoI	DoI	DoI	DoI
Ayrshire																	
5.0 -	25----	77	1,150.7	14.9	85	12,593	3.90	491	49	108	46	140	383	630	5.10	1,623	993
25.1 -	50----	107	3,932.3	36.8	84	11,935	3.95	471	48	99	39	135	359	604	5.08	1,560	956
50.1 -	75----	64	3,915.4	61.2	83	11,996	3.91	469	49	98	40	156	380	626	5.29	1,591	965
75.1 -	100----	17	1,429.1	84.1	85	12,681	3.91	496	51	148	31	103	395	648	5.12	1,685	1,036
100.1 -	150----	9	1,037.5	115.3	86	13,486	4.06	547	53	174	29	119	405	693	5.17	1,794	1,101
200.1 -	300----	2	468.8	234.4	87	11,576	4.14	479	66	138	11	---	526	708	6.16	1,569	861
Brown Swiss																	
5.0 -	25----	62	953.2	15.4	85	12,145	4.03	489	52	111	52	147	381	665	5.37	1,569	904
25.1 -	50----	145	5,408.2	37.3	86	12,050	4.08	492	49	102	49	147	315	569	4.79	1,556	987
50.1 -	75----	62	3,706.8	59.8	85	12,116	4.06	492	51	120	40	144	357	624	4.94	1,588	963
75.1 -	100----	21	1,829.5	87.1	86	13,283	4.09	543	61	145	38	146	399	725	5.22	1,752	1,027
100.1 -	150----	12	1,442.8	120.2	83	11,826	4.04	478	60	77	59	203	409	673	5.95	1,632	959
150.1 -	200----	1	186.9	186.9	83	15,003	3.81	572	34	139	57	365	270	950	6.33	2,091	1,141
200.1 -	300----	1	217.8	217.8	83	14,455	4.03	583	76	13	38	365	620	860	5.95	2,063	1,203
300.1 -	400----	1	326.5	326.5	86	10,829	3.40	368	93	80	---	128	740	880	8.13	1,622	742
Guernsey																	
5.0 -	25----	76	1,084.5	14.3	86	11,048	4.58	506	47	98	43	158	347	580	5.28	1,545	965
25.1 -	50----	201	7,640.0	38.0	87	10,727	4.66	500	46	94	40	152	326	564	5.31	1,506	942
50.1 -	75----	119	7,187.5	60.4	86	10,869	4.68	509	47	108	30	149	340	583	5.41	1,550	967
75.1 -	100----	48	4,027.2	83.9	86	11,054	4.60	508	48	110	28	193	372	616	5.60	1,616	1,000
100.1 -	150----	24	2,955.0	123.1	87	10,933	4.68	512	46	124	25	203	352	607	5.62	1,589	982
150.1 -	200----	10	1,673.0	167.3	86	10,958	4.66	511	47	130	24	213	405	689	6.39	1,614	925
200.1 -	300----	4	1,022.1	255.5	82	9,535	4.38	418	59	142	24	350	460	634	6.74	1,445	810
300.1 -	400----	1	330.4	330.4	81	10,350	4.47	463	56	139	18	---	490	760	7.34	1,603	843
Holstein																	
5.0 -	25----	588	11,422.7	19.4	86	14,418	3.65	526	56	96	52	148	407	673	4.61	1,784	1,111
25.1 -	50----	5,279	206,847.7	39.2	86	14,737	3.66	539	57	117	44	137	417	689	4.65	1,851	1,162
50.1 -	75----	4,764	291,610.7	61.2	86	14,910	3.64	542	58	136	37	139	427	704	4.68	1,888	1,184
75.1 -	100----	2,466	211,952.1	85.9	86	14,826	3.62	537	60	146	33	148	442	723	4.81	1,895	1,172
100.1 -	150----	1,779	212,804.3	119.6	86	14,780	3.61	533	62	154	30	153	461	750	4.94	1,898	1,148
150.1 -	200----	529	90,454.3	171.0	86	14,657	3.59	526	63	164	29	168	479	767	5.08	1,906	1,139
200.1 -	300----	313	73,927.8	236.2	85	14,502	3.61	523	63	169	29	170	480	782	5.13	1,916	1,133
300.1 -	400----	71	23,832.7	335.7	85	14,569	3.58	522	66	182	24	170	500	785	4.89	1,941	1,156
400.1 -	500----	22	9,833.9	447.0	84	14,402	3.49	503	72	180	37	169	511	844	4.95	1,905	1,061
500.1 -	750----	5	2,873.3	574.7	85	13,809	3.52	486	66	196	24	86	477	830	4.50	1,853	1,023
750.1 -	1,000----	1	798.5	798.5	89	15,510	3.70	574	31	276	12	---	260	830	5.35	2,167	1,337
1,000.1 -	1,250----	1	1,020.8	1,020.8	81	11,464	3.25	373	89	---	57	---	530	750	6.54	1,744	994
1,500.1 -	2,000----	1	1,517.2	1,517.2	86	14,048	3.65	513	83	110	30	---	670	1,090	.64	2,227	1,137
Jersey																	
5.0 -	25----	135	2,093.5	15.5	85	10,128	4.79	485	44	75	43	154	362	570	5.69	1,456	886
25.1 -	50----	297	11,105.9	37.4	86	10,371	4.80	498	45	76	38	159	369	571	5.54	1,499	928
50.1 -	75----	203	12,582.5	61.8	86	10,255	4.80	492	45	88	30	166	364	567	5.51	1,481	914
75.1 -	100----	103	8,865.0	86.1	85	10,264	4.81	494	47	96	25	197	379	578	5.69	1,516	938
100.1 -	150----	97	11,750.9	121.1	86	10,174	4.81	489	49	106	26	212	385	598	5.93	1,518	920
150.1 -	200----	34	5,867.4	172.6	84	10,095	4.76	481	49	108	18	184	391	628	6.33	1,525	897
200.1 -	300----	15	3,630.8	242.1	85	10,189	4.73	482	51	103	20	300	446	683	6.82	1,557	874
300.1 -	400----	8	2,874.5	359.3	84	10,880	4.81	523	54	87	27	178	425	671	6.20	1,611	940
400.1 -	500----	2	903.5	451.8	85	9,971	4.80	479	44	153	16	218	374	748	7.53	1,578	830
Milking Shorthorn																	
5.0 -	25----	19	307.0	16.2	83	10,784	3.66	395	43	90	48	139	265	511	4.87	1,305	794
25.1 -	50----	20	756.8	37.8	83	9,823	3.68	361	33	70	55	158	226	479	5.02	1,162	683
50.1 -	75----	5	297.3	59.5	82	10,736	3.60	386	42	67	53	217	298	563	5.17	1,296	733
75.1 -	100----	2	166.1	83.1	83	9,769	3.64	356	39	42	50	75	294	464	4.67	1,202	738
100.1 -	150----	1	111.7	111.7	75	10,526	3.77	397	26	84	25	224	160	340	3.23	1,191	851
Mixed and other breeds																	
5.0 -	25----	45	733.1	16.3	84	11,424	3.91	447	48	72	50	167	339	582	5.20	1,414	832
25.1 -	50----	172	6,553.2	38.1	85	12,325	3.89	480	52	104	42	147	375	633	5.17	1,577	944
50.1 -	75----	117	7,152.3	61.1	85	11,990	3.90	468	51	114	37	172	357	602	5.11	1,560	958
75.1 -	100----	56	4,844.9	86.5	84	11,969	3.94	472	54	112	36	186	425	673	5.70	1,605	931
100.1 -	150----	38	4,534.4	119.6	84	11,939	3.85	460	58	125	29	234	468	726	6.03	1,619	893
150.1 -	200----	11	1,846.1	167.8	85	12,195	3.85	469	56	113	28	289	444	736	6.10	1,677	941
200.1 -	300----	5	1,146.3	229.3	85	10,880	3.75	408	54	89	30	222	436	641	6.23	1,460	820
300.1 -	400----	3	1,047.4	349.1	84	10,989	3.48	382	102	74	12	365	724	844	7.69	1,681	837
750.1 -	1,000----	1	934.1	934.1	85	11,637	3.64	424	134	---	---	---	920	920	7.91	1,829	909

¹ Dashes indicate feed not included in ration.

Table 7.--State and national cow-year totals and averages for all nonofficial herd records, 1980¹

State	Herds	Cow-years	Cows per herd	Days in milk	Milk	Fat	Fat
	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Pct</u>	<u>Lb</u>	<u>Pct</u>	<u>Lb</u>
Alabama-----	6	430.4	71.7	87	11,879	3.62	430
Alaska-----	5	346.9	69.4	86	16,349	3.43	560
Arkansas-----	45	4,405.8	97.9	85	13,488	3.49	471
California-----	83	28,847.8	347.6	83	18,902	3.70	551
Colorado-----	19	3,724.5	196.0	84	13,857	3.74	518
Connecticut-----	30	1,916.6	63.9	85	14,554	3.69	537
Delaware-----	2	152.5	76.3	85	13,797	3.73	515
Florida-----	1	54.4	54.4	89	11,861	3.28	389
Georgia-----	4	236.4	59.1	86	13,768	3.49	481
Hawaii-----	2	1,499.6	749.8	73	12,377	3.32	411
Idaho-----	36	4,249.0	118.0	86	14,868	3.67	545
Illinois-----	205	9,862.3	48.1	86	13,461	3.87	521
Indiana-----	216	10,433.3	48.3	86	13,863	3.70	513
Iowa-----	861	37,846.7	44.0	85	12,706	3.78	480
Kansas-----	111	5,582.2	50.3	85	13,432	3.55	477
Kentucky-----	28	2,018.7	72.1	85	13,726	3.69	506
Louisiana-----	31	2,647.9	85.4	85	12,714	3.50	445
Maine-----	27	1,093.3	40.5	86	13,627	3.61	492
Maryland-----	42	2,653.3	63.2	86	13,931	3.70	515
Massachusetts-----	16	596.6	37.3	86	13,346	3.66	489
Michigan-----	681	39,366.0	57.8	84	14,594	3.69	538
Minnesota-----	1,953	80,053.8	41.0	85	13,494	3.76	508
Mississippi-----	18	1,637.2	91.0	85	12,249	3.64	446
Missouri-----	168	9,521.8	56.7	85	12,816	3.64	467
Montana-----	5	1,015.4	203.1	82	12,249	3.49	427
Nebraska-----	46	3,447.7	75.0	86	13,327	3.64	485
Nevada-----	1	242.7	242.7	82	14,293	3.58	512
New Hampshire-----	29	1,179.1	40.7	85	12,475	3.74	466
New Jersey-----	18	978.9	54.4	85	13,848	3.70	512
New Mexico-----	4	608.2	152.1	83	13,494	3.81	514
New York-----	2,562	148,682.8	58.0	85	14,696	3.58	526
North Carolina-----	23	1,492.3	64.9	87	14,430	3.54	511
North Dakota-----	32	2,478.9	77.5	85	13,196	3.58	472
Ohio-----	490	24,235.5	49.5	86	14,141	3.77	533
Oklahoma-----	44	3,731.2	84.8	83	13,222	3.61	477
Oregon-----	25	1,903.2	76.1	85	13,918	3.82	531
Pennsylvania-----	1,694	81,854.6	48.3	84	13,900	3.73	518
South Carolina-----	3	217.8	72.6	86	9,338	3.77	352
South Dakota-----	262	12,791.7	48.8	83	12,911	3.69	476
Tennessee-----	22	2,512.5	114.2	84	13,125	3.65	479
Texas-----	18	2,241.2	124.5	84	12,741	3.61	460
Utah-----	15	2,090.5	139.4	83	14,746	3.59	529
Vermont-----	239	12,777.1	53.5	84	13,385	3.66	490
Virginia-----	25	1,153.7	46.1	87	15,168	3.48	528
Washington-----	66	9,209.2	139.5	85	14,814	3.63	538
West Virginia-----	5	131.7	26.3	86	14,206	3.72	529
Wisconsin-----	9,398	416,636.6	44.3	85	14,187	3.86	548
Wyoming-----	1	80.6	80.6	86	16,050	3.32	533
United States-----	19,617	980,870.1	50.0	85	14,080	3.76	529

¹ Records are from plans that include both milk weights and fat sampling for individual cows.

Table 8.--National cow-year totals and averages for all nonofficial herd records, by breed and milk level, 1980¹

Milk level	Herds	Cow-years	Cows per herd	Days in milk	Milk	Fat	Fat
Lb	Number	Number	Number	Pct	Lb	Pct	Lb
Ayrshire							
7,000 - 7,999---	1	31.7	31.7	82	7,822	3.85	301
8,000 - 8,999---	5	126.8	25.4	78	8,302	4.06	337
9,000 - 9,999---	11	428.5	39.0	83	9,641	3.96	382
10,000 - 10,999---	15	523.8	34.9	84	10,441	3.97	415
11,000 - 11,999---	15	486.9	32.5	85	11,557	3.94	455
12,000 - 12,999---	10	309.1	30.9	84	12,497	3.80	475
13,000 - 13,999---	7	263.8	37.7	83	13,444	3.82	513
14,000 - 14,999---	4	160.3	40.1	86	14,616	3.97	560
15,000 - 15,999---	4	130.3	32.6	85	15,454	3.84	594
Total or average-----	72	2,461.2	34.2	84	11,496	3.91	450
Brown Swiss							
Less than 7,000---	1	25.2	25.2	71	6,700	3.15	211
7,000 - 7,999---	1	24.7	24.7	78	7,197	3.79	273
8,000 - 8,999---	5	255.3	51.1	82	8,644	3.97	343
9,000 - 9,999---	14	473.0	33.8	82	9,511	4.02	382
10,000 - 10,999---	23	658.2	28.6	83	10,554	4.15	438
11,000 - 11,999---	33	1,044.4	31.6	85	11,550	4.06	469
12,000 - 12,999---	14	434.4	31.0	84	12,280	3.97	487
13,000 - 13,999---	15	571.7	38.1	87	13,562	4.09	555
14,000 - 14,999---	14	499.1	35.7	85	14,537	3.98	578
15,000 - 15,999---	3	99.9	33.3	88	15,536	3.80	591
17,000 - 17,999---	1	48.7	48.7	85	17,168	3.59	616
Total or average-----	124	4,134.6	33.3	84	11,801	4.03	475
Guernsey							
Less than 7,000---	7	170.8	24.4	82	5,896	4.63	273
7,000 - 7,999---	22	673.6	30.6	83	7,605	4.65	354
8,000 - 8,999---	37	1,446.6	39.1	84	8,515	4.70	400
9,000 - 9,999---	97	3,490.8	36.0	85	9,484	4.70	446
10,000 - 10,999---	123	4,165.8	33.9	86	10,449	4.69	490
11,000 - 11,999---	75	2,691.0	35.9	86	11,427	4.56	521
12,000 - 12,999---	55	2,058.6	37.4	87	12,448	4.51	562
13,000 - 13,999---	19	905.2	47.6	86	13,556	4.10	557
14,000 - 14,999---	7	241.8	34.5	85	14,423	3.88	560
15,000 - 15,999---	6	250.5	41.8	87	15,284	4.11	628
16,000 - 16,999---	3	154.3	51.4	90	16,111	3.95	637
Total or average-----	451	16,249.0	36.0	86	10,682	4.56	487
Holstein							
Less than 7,000---	30	1,061.5	35.4	82	6,452	3.67	237
7,000 - 7,999---	42	1,524.2	36.3	81	7,634	3.69	282
8,000 - 8,999---	135	5,702.5	42.2	81	8,605	3.82	329
9,000 - 9,999---	317	13,846.5	43.7	81	9,542	3.80	363
10,000 - 10,999---	730	31,900.3	43.7	82	10,569	3.78	400
11,000 - 11,999---	1,462	68,054.8	46.5	83	11,554	3.79	438
12,000 - 12,999---	2,398	117,378.3	48.9	84	12,537	3.77	473
13,000 - 13,999---	3,488	171,170.7	49.1	85	13,525	3.76	509
14,000 - 14,999---	3,528	183,533.7	52.0	85	14,498	3.75	543
15,000 - 15,999---	3,030	159,285.3	52.6	86	15,474	3.72	576
16,000 - 16,999---	1,884	104,552.0	55.5	86	16,458	3.69	607
17,000 - 17,999---	829	46,921.9	56.6	86	17,421	3.66	637
18,000 - 18,999---	323	18,308.1	56.7	86	18,406	3.61	665
19,000 - 19,999---	96	5,061.3	52.7	86	19,321	3.64	703
20,000 - 20,999---	29	1,393.6	48.1	87	20,379	3.64	742
21,000 - 21,999---	5	205.0	41.0	86	21,337	3.64	776
22,000 - 22,999---	1	66.4	66.4	89	22,632	3.28	742
23,000 - 23,999---	1	43.4	43.4	88	23,059	3.65	842
Total or average-----	18,328	930,009.5	50.7	85	14,240	3.74	532

See footnote at end of table.

Table 8.--National cow-year totals and averages for all nonofficial herd records, by breed and milk level, 1980¹--Con.

Milk level	Herd	Cow-years	Cows per herd	Days in milk	Milk	Fat	Fat
Lb	Number	Number	Number	Pct	Lb	Pct	Lb
Jersey							
Less than 7,000---	11	338.2	30.7	80	5,962	4.73	282
7,000 - 7,999---	28	1,039.8	37.1	84	7,684	4.95	360
8,000 - 8,999---	60	2,077.7	34.6	84	6,516	4.81	410
9,000 - 9,999---	79	3,487.0	44.1	85	9,469	4.96	470
10,000 - 10,999---	75	2,258.8	30.1	86	10,460	4.66	508
11,000 - 11,999---	23	1,078.4	46.9	67	11,458	4.87	558
12,000 - 12,999---	12	724.3	60.4	85	12,269	4.66	572
13,000 - 13,999---	6	342.2	57.0	87	13,593	3.90	530
14,000 - 14,999---	1	70.8	70.8	87	14,942	4.64	693
15,000 - 15,999---	2	58.3	29.2	87	15,403	3.95	609
Total or average-----	297	11,475.5	38.6	85	5,777	4.82	471
Milking Shorthorn							
Less than 7,000---	1	9.9	9.9	84	6,744	3.17	214
7,000 - 7,999---	2	20.2	10.1	83	7,681	3.76	289
8,000 - 8,999---	2	43.6	21.8	77	8,646	3.61	329
9,000 - 9,999---	2	42.0	21.0	85	5,889	3.73	369
13,000 - 13,999---	1	64.6	64.6	80	13,097	3.75	491
14,000 - 14,999---	1	32.3	32.3	85	14,766	3.76	555
Total or average-----	9	212.6	23.6	81	10,993	3.74	411
Mixed and other breeds							
Less than 7,000---	8	141.3	17.7	82	6,442	4.08	263
7,000 - 7,999---	12	433.1	36.1	82	7,589	4.34	329
8,000 - 8,999---	20	534.0	26.7	83	8,467	3.91	331
9,000 - 9,999---	28	1,090.9	39.0	84	9,538	4.21	402
10,000 - 10,999---	50	1,927.6	38.6	83	10,496	4.15	436
11,000 - 11,999---	65	3,386.4	52.1	84	11,591	3.90	452
12,000 - 12,999---	54	2,427.1	44.9	84	12,515	3.87	484
13,000 - 13,999---	37	2,201.1	59.5	84	13,522	3.66	522
14,000 - 14,999---	29	2,055.7	70.9	84	14,411	3.66	527
15,000 - 15,999---	20	1,290.3	64.5	86	15,321	3.81	584
16,000 - 16,999---	10	673.6	67.4	84	16,574	3.63	602
17,000 - 17,999---	3	166.6	55.5	89	17,487	3.85	673
Subtotals:							
Red and White--	8	360.9	45.1	84	12,867	3.85	495
Mixed-----	328	15,966.8	48.7	84	12,374	3.88	480
Total or average-----	336	16,327.7	48.6	84	12,385	3.88	480

¹ Records are from plans that include both milk weights and fat sampling for individual cows.

Table 9.--National cow-year totals and averages for all nonofficial herd records, by breed and herd size, 1980¹

Herd size		Herds	Cow-years	Cows per herd	Days in milk	Milk	Fat	Fat
Number		Number	Number	Number	Pct	Lb	Pct	Lb
Ayrshire								
5.0 -	25----	24	423.3	17.6	83	11,393	3.85	439
25.1 -	50----	37	1,339.4	36.2	83	11,357	3.90	443
50.1 -	75----	9	527.5	58.6	85	11,734	3.95	464
75.1 -	100----	2	171.0	85.5	86	12,108	4.03	488
Brown Swiss								
5.0 -	25----	38	654.4	17.2	85	11,443	4.07	466
25.1 -	50----	75	2,640.0	35.2	84	12,051	4.03	486
50.1 -	75----	6	358.3	59.7	86	11,679	4.03	471
75.1 -	100----	3	266.6	88.9	85	12,609	4.02	507
100.1 -	150----	2	215.3	107.7	79	9,028	3.77	340
Guernsey								
5.0 -	25----	121	2,325.5	19.2	85	10,269	4.59	471
25.1 -	50----	268	9,593.9	35.8	86	10,756	4.56	490
50.1 -	75----	47	2,778.3	59.1	86	10,505	4.65	488
75.1 -	100----	8	692.9	86.6	87	10,922	4.61	503
100.1 -	150----	5	550.0	110.0	85	12,865	3.96	510
150.1 -	200----	2	308.4	154.2	82	8,631	4.94	426
Holstein								
5.0 -	25----	1,663	33,031.5	19.9	85	13,525	3.75	507
25.1 -	50----	10,246	386,615.3	37.7	85	14,044	3.76	528
50.1 -	75----	4,371	261,303.4	59.8	85	14,384	3.75	539
75.1 -	100----	1,194	102,288.5	85.7	85	14,410	3.72	536
100.1 -	150----	574	67,778.1	118.1	85	14,596	3.67	535
150.1 -	200----	144	24,678.1	171.4	85	14,353	3.64	523
200.1 -	300----	64	15,550.9	243.0	85	14,220	3.66	520
300.1 -	400----	33	11,500.0	348.5	84	14,506	3.66	531
400.1 -	500----	13	5,627.8	432.9	83	14,275	3.66	522
500.1 -	750----	14	8,454.7	603.9	82	14,995	3.64	546
750.1 -	1,000----	5	4,329.7	865.9	84	14,817	3.62	536
1,000.1 -	1,250----	4	4,294.1	1,073.5	79	15,825	3.58	566
1,250.1 -	1,500----	1	1,365.9	1,365.9	79	14,745	3.72	549
1,500.1 -	2,000----	2	3,191.5	1,595.8	83	13,747	3.55	488
Jersey								
5.0 -	25----	92	1,539.2	16.7	85	9,623	4.79	461
25.1 -	50----	147	5,151.5	35.0	86	9,633	4.74	457
50.1 -	75----	42	2,419.2	57.6	85	9,673	4.83	467
75.1 -	100----	8	679.5	84.9	85	10,044	4.94	496
100.1 -	150----	3	347.0	115.7	86	9,835	5.38	529
150.1 -	200----	2	352.6	176.3	87	11,574	4.23	490
200.1 -	300----	1	262.1	262.1	85	9,054	5.50	498
300.1 -	400----	2	724.4	362.2	81	10,584	5.12	542
Milking Shorthorn								
5.0 -	25----	5	61.1	12.2	81	8,214	3.71	305
25.1 -	50----	3	86.9	29.0	83	11,384	3.75	427
50.1 -	75----	1	64.6	64.6	80	13,097	3.75	491
Mixed and other breeds								
5.0 -	25----	88	1,702.1	19.3	84	11,326	4.00	453
25.1 -	50----	167	6,182.7	37.0	84	11,770	3.96	466
50.1 -	75----	51	3,020.6	59.2	85	12,284	4.00	491
75.1 -	100----	13	1,136.0	87.4	86	12,948	3.97	514
100.1 -	150----	6	724.1	120.7	85	13,604	3.75	510
150.1 -	200----	1	178.1	178.1	83	14,929	3.62	540
200.1 -	300----	5	1,232.2	246.4	82	13,590	3.64	494
300.1 -	400----	3	1,023.2	341.1	81	14,356	3.52	505
500.1 -	750----	2	1,128.7	564.4	82	12,762	3.74	477

¹ Records are from plans that include both milk weights and fat sampling for individual cows.

Table 10.--Summary of Milk-Only-Record and Weigh-A-Day-A-Month plans and records with fat outside USDA limits, by State, 1980

State	Herds	Cow-years	Cows per herd	Days in milk	Milk	Records with fat production		
	Number	Number	Number	Pct	Lb	Herds	Cow-years	Fat
Florida-----	95	32,563.9	342.8	84	12,143	0	0.0	0
Georgia-----	93	16,635.9	178.9	83	12,616	3	386.3	484
Illinois-----	45	2,587.9	57.5	87	14,222	45	2,587.9	521
Kentucky-----	34	3,200.0	94.1	84	12,831	30	2,673.7	471
Louisiana-----	10	1,127.1	112.7	84	9,350	0	0.0	0
Maine-----	17	2,383.2	140.2	85	15,717	17	2,383.2	546
Michigan-----	13	2,658.0	204.5	84	14,819	13	2,658.0	539
New York-----	168	14,326.6	85.3	86	14,712	164	14,160.0	522
North Carolina---	34	3,599.0	105.9	85	14,064	2	100.3	500
Oregon-----	21	2,812.6	133.9	85	15,134	21	2,812.6	558
South Carolina---	11	1,365.8	124.2	85	13,418	1	319.1	525
South Dakota----	30	2,029.9	67.7	84	13,133	30	2,029.9	476
Texas-----	31	5,406.1	174.4	84	14,085	9	1,920.9	483
Vermont-----	10	741.8	74.2	86	13,875	10	741.8	483
Wisconsin-----	37	2,073.5	56.0	85	14,320	23	1,402.9	548
Other States ¹ ---	118	15,285.5	129.5	84	12,879	95	11,232.0	485
United States----	767	108,796.8	141.8	84	13,167	463	45,408.6	510

¹ Includes States where number of herds was less than 10.

Table 11.--Summary of all cow herd averages by plan, 1980

Plan ¹	Herds ²	Cow-years	Cows per herd	Days in milk	Milk	Records with fat production		
	Number	Number	Number	Pct	Lb	Herds	Cow-years	Fat
DHIR-----	4,179	332,629.5	79.6	86	15,506	4,178	332,610.9	596
DHIR-APCS-----	8	586.7	73.3	87	11,117	8	586.7	526
DHI-----	28,585	2,258,844.0	79.0	86	15,083	28,578	2,258,065.0	557
DHI-APCS ¹ -----	1,977	245,395.6	124.1	84	13,045	1,942	239,002.6	468
DHI-AP-----	518	38,529.7	74.4	85	14,726	518	38,529.7	539
SS-AP-----	3,645	217,175.7	59.6	85	14,457	3,642	217,029.3	527
OS-----	14,541	656,926.7	45.2	85	14,000	14,516	655,224.5	533
OS-AP-----	1,166	60,193.9	51.6	85	13,231	1,158	57,645.2	495
MOR/COMM/WADAM ³ ---	810	135,739.5	167.9	84	13,736	585	83,939.2	524
Bimonthly-----	153	10,992.4	71.8	85	12,743	153	10,992.4	467
Trimonthly-----	24	1,380.0	57.5	84	14,804	24	1,380.0	559
United States----	55,606	3,958,393.6	71.2	85	14,693	55,302	3,895,005.4	547

¹ DHIR = Dairy Herd Improvement Registry; DHIR-APCS = DHIR with AM-PM component sampling; DHI = Official DHI; DHI-APCS = DHI with AM-PM component sampling; DHI-AP = DHI with monitoring device; SS-AP = Supervised Alternate AM-PM; OS = Owner-Sampler; OS-AP = Owner-Sampler AM-PM; MOR/COMM/WADAM = Milk-Only-Record, Commercial, or Weigh-A-Day-A-Month.

² An additional 12 herds in official plans and 1 herd in a nonofficial plan are included in this table over tables 1-8, because for those tables all duplicates were dropped, whereas for this table 1 of the 2 was kept.

³ There are 35 fewer herds with fat production. These were primarily herds that transferred from the Supervised-Milk-Only plan.

⁴ These plans are grouped because they are not coded uniquely.

Table 12.--Summary of cow-year totals and averages for all official herd records, 1939-80¹

Test years	Herds	Cow-years	Cows per herd	Days in milk	Milk	Fat	Fat
	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Pct</u>	<u>Lb</u>	<u>Pct</u>	<u>Lb</u>
1939-40----	---	545,382	---	--	8,133	4.07	331
1940-41----	---	591,103	---	--	8,225	4.07	335
1941-42----	---	514,758	---	--	8,323	4.07	339
1942-43----	---	375,914	---	--	8,325	4.06	338
1943-44----	---	383,337	---	--	8,296	4.05	336
1944-45----	---	384,360	---	--	8,592	4.03	346
1945-46----	---	413,554	---	--	8,635	4.04	349
1946-47----	---	533,061	---	--	8,638	4.03	348
1947-48----	---	620,385	---	--	8,675	4.03	350
1948-49----	---	729,150	---	--	8,907	4.03	359
1949-50----	---	836,922	---	--	9,172	4.03	370
1950-51----	---	885,859	---	--	9,195	4.02	370
1951-52----	---	928,376	---	--	9,192	3.98	366
1952-53----	---	1,020,326	---	--	9,253	3.98	368
1953-54----	---	1,079,557	---	--	9,363	3.97	372
1954-55----	---	1,175,378	---	--	9,502	3.95	375
1955-56----	---	1,229,971	---	--	9,713	3.94	383
1956-57----	---	1,256,129	---	--	9,894	3.93	389
1957-58----	---	1,345,750	---	--	10,068	3.91	394
1958-59----	---	1,406,665	---	--	10,327	3.88	401
1959-60 ² ---	---	1,343,725	---	--	10,561	3.87	409
1960-61----	28,649	1,280,785	44.7	--	10,796	3.87	418
1961-62----	32,794	1,531,826	46.7	--	11,032	3.86	426
1962-63----	35,378	1,674,803	47.3	--	11,286	3.85	434
1963-64----	35,689	1,746,475	48.9	--	11,685	3.83	447
1964-65----	35,604	1,821,252	51.2	--	11,976	3.82	457
1965-66----	34,886	1,852,533	53.1	--	12,127	3.81	462
1966-67----	34,515	1,890,024	54.8	--	12,307	3.80	468
1967-68----	33,560	1,924,200	57.3	85	12,397	3.80	471
1968-69----	33,130	1,959,647	59.2	85	12,553	3.79	476
1969-70----	31,138	1,937,390	62.2	85	12,750	3.79	483
1970-71----	30,695	1,995,463	65.0	85	13,000	3.76	489
1971-72----	30,190	2,050,132	67.9	85	13,226	3.75	496
1972-73----	30,826	2,177,626	70.6	85	13,287	3.76	499
1973-74----	30,280	2,221,349	73.4	85	13,163	3.75	493
1974-75----	29,543	2,216,817	75.0	85	13,421	3.76	505
1975-76----	29,634	2,240,752	75.6	86	13,632	3.75	511
1976-77----	30,764	2,373,261	77.1	86	14,435	3.73	539
1977-78----	31,783	2,476,946	77.9	86	14,631	3.70	542
1978-79----	32,831	2,571,361	78.3	86	14,644	3.70	542
1979-80----	34,449	2,771,379	80.4	85	14,786	3.70	547
1980 ³ -----	35,206	2,867,177	81.4	86	14,960	3.70	553

¹ Dashes indicate data unavailable.² National test year was established in 1960 to begin May 1. No report was prepared in 1960, so averages of data for 1959 and 1960 were used. In previous years, beginning date varied by State.³ National test year changed in fall of 1980 to be the calendar year. Data included are for records ending any time in 1980. Data for 1980 overlap 1979-80 data by one-third.

Table 13.—Summary of cow-year totals and averages for herds on official test with feeding information reported, 1939-80¹

Test years ³	Herds	Cow-years	Cows per herd	Days in milk	Milk	Fat	Fat	Conc	Succ for-age	Dry for-age	Pas-ture days	Value of product	Cost of conc	Feed cost	Feed cost/cwt milk	Income over feed cost
	Number	Number	Number	Pct	Lb	Pct	Lb	Cwt	Cwt	Cwt	Number	Dol	Dol	Dol	Dol	Dol
1939-40---	19,330	467,775	24.2	--	8,049	4.05	326	--	---	---	---	165	32	68	0.84	97
1940-41---	20,590	500,340	24.3	--	8,182	4.06	332	--	---	---	---	176	34	70	.86	106
1941-42---	17,341	430,057	24.8	--	8,271	4.06	336	--	---	---	---	206	42	82	.59	124
1942-43---	12,006	306,142	25.5	--	8,219	4.06	334	--	---	---	---	245	53	95	1.20	146
1943-44---	11,433	308,678	27.0	--	8,141	4.05	330	--	---	---	---	274	63	118	1.45	156
1944-45---	11,204	304,748	27.2	--	8,434	4.02	339	--	---	---	---	302	68	128	1.49	174
1945-46---	11,795	318,461	27.0	--	8,440	4.05	342	--	---	---	---	314	70	130	1.54	184
1946-47---	15,566	418,738	26.9	--	8,454	4.02	340	--	---	---	---	352	79	141	1.67	211
1947-48---	18,573	494,036	26.6	--	8,429	4.01	338	--	---	---	---	388	95	165	1.96	223
1948-49---	22,312	586,815	26.3	--	8,701	4.02	350	--	---	---	---	390	85	156	1.79	234
1949-50---	24,841	675,685	27.2	--	8,949	4.01	359	--	---	---	---	359	76	147	1.64	212
1950-51---	26,134	721,311	27.6	--	8,983	4.02	361	--	---	---	---	370	81	154	1.71	216
1951-52---	26,423	768,916	29.1	--	9,015	3.97	358	--	---	---	---	399	87	165	1.83	234
1952-53---	18,557	525,346	28.3	--	9,069	3.96	359	30	56	37	168	461	101	194	2.14	267
1953-54---	26,834	748,234	27.9	--	9,117	3.96	361	26	55	37	174	434	93	188	2.06	246
1954-55---	28,727	822,254	28.6	--	9,261	3.94	365	28	61	37	178	429	85	183	1.98	246
1955-56---	28,254	849,344	30.1	--	9,470	3.93	372	29	64	39	174	433	86	181	1.91	252
1956-57---	27,133	863,275	31.8	--	9,621	3.92	377	30	66	39	173	448	88	183	1.90	265
1957-58---	27,525	900,269	32.7	--	9,787	3.91	383	31	69	40	171	462	92	190	1.94	272
1958-59---	27,796	902,074	32.5	--	10,042	3.89	391	33	75	40	174	475	93	195	1.94	280
1959-60---	23,220	795,892	34.3	--	10,045	3.89	391	33	76	40	169	479	93	196	1.95	283
1960-61---	18,644	689,710	37.0	--	10,048	3.88	390	32	78	39	163	485	94	198	1.97	287
1961-62---	22,853	882,827	38.6	--	10,676	3.87	413	36	82	40	175	502	103	207	1.94	295
1962-63---	27,093	1,089,290	40.2	84	10,983	3.85	423	39	92	40	156	501	113	222	2.02	279
1963-64---	27,893	1,173,099	42.1	84	11,428	3.84	439	42	98	38	151	521	120	237	2.07	284
1964-65---	28,237	1,229,676	43.5	85	11,744	3.82	449	44	102	38	151	539	127	244	2.08	295
1965-66---	28,013	1,260,621	45.0	85	11,885	3.81	453	45	108	36	114	559	133	256	2.15	303
1966-67---	27,483	1,282,357	46.7	85	12,030	3.82	459	47	113	36	---	631	143	265	2.20	366
1967-68---	25,447	1,257,600	49.4	85	12,121	3.81	462	48	120	34	134	667	149	271	2.27	395
1968-69---	25,208	1,271,983	50.5	85	12,223	3.80	465	49	---	33	132	700	146	266	2.21	434
1969-70---	23,130	1,227,860	53.1	85	12,428	3.79	471	50	124	32	129	736	153	273	2.23	463
1970-71---	22,824	1,240,414	54.3	85	12,659	3.77	477	51	116	33	120	767	165	287	2.30	480
1971-72---	20,987	1,211,464	57.7	85	12,775	3.75	479	52	116	30	122	791	174	301	2.39	490
1972-73---	22,628	1,322,782	58.5	85	12,801	3.76	481	52	118	30	113	821	187	321	2.54	500
1973-74---	20,083	1,217,462	60.6	85	12,604	3.74	472	51	118	29	116	989	262	422	3.40	567
1974-75---	20,444	1,297,541	63.5	85	13,024	3.76	489	51	123	29	110	1,114	318	527	4.11	567
1975-76---	20,470	1,318,140	64.4	86	13,326	3.74	498	52	126	28	113	1,229	315	557	4.23	672
1976-77---	17,642	1,210,810	68.6	86	13,849	3.75	519	55	129	28	112	1,371	358	609	4.46	762
1977-78---	18,392	1,299,256	70.6	86	13,978	3.71	518	57	126	28	113	1,404	355	612	4.44	792
1978-79---	18,587	1,310,083	70.5	86	14,129	3.70	522	58	126	30	109	1,555	372	629	4.49	927
1979-80---	18,473	1,282,145	69.4	86	14,227	3.69	525	59	128	30	107	1,750	411	677	4.75	1,073
1980-----	18,272	1,280,895	70.1	86	14,359	3.69	530	59	126	31	87	1,851	437	715	4.90	1,136

¹ Dashes indicate data unavailable.² Prior to 1952, individual feeds were not reported. Only cows and herds from States reporting feeding information were included.³ National test year changed in fall of 1980 to be the calendar year. Data included are for records ending any time in 1980. Data for 1980 overlap 1979-80 data by one-third.

Table 14.--Summary of cow-year totals and averages for all nonofficial herd records, 1962-80¹

Test years	Herds	Cow-years	Cows per herd	Days in milk	Milk	Fat	Fat
	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Pct</u>	<u>Lb</u>	<u>Pct</u>	<u>Lb</u>
1962-63-----	14,761	423,545	28.7	--	10,606	3.73	396
1963-64-----	13,574	385,493	28.4	--	10,885	3.71	404
1964-65-----	18,409	559,608	30.4	--	11,402	3.71	423
1965-66-----	19,172	598,133	31.2	--	11,472	3.70	425
1966-67-----	17,912	575,816	32.1	--	11,607	3.72	432
1967-68-----	17,318	592,647	34.2	84	11,847	3.72	441
1968-69-----	17,908	614,939	34.3	84	11,932	3.72	444
1969-70-----	16,971	611,819	36.1	84	12,185	3.72	453
1970-71-----	16,569	612,080	36.9	84	12,413	3.71	460
1971-72-----	16,107	618,088	38.4	84	12,544	3.74	466
1972-73-----	16,183	631,269	39.0	84	12,488	3.75	468
1973-74-----	16,037	639,964	39.9	85	12,353	3.75	463
1974-75-----	14,704	610,910	41.5	85	12,503	3.80	475
1975-76-----	16,784	753,089	44.9	85	13,104	3.79	497
1976-77-----	17,662	815,988	46.2	85	13,539	3.76	509
1977-78-----	18,675	891,738	47.8	85	13,771	3.75	516
1978-79-----	19,248	933,631	48.5	85	13,847	3.77	522
1979-80-----	19,328	953,595	49.3	85	13,969	3.77	527
1980-----	19,617	980,870	50.0	85	14,080	3.76	529

¹ Dashes indicate data unavailable.Table 15.--Summary of cow-year totals and averages for herds on nonofficial test with feeding information reported, 1962-80¹

Test years	Herds	Cow-years	Cows per herd	Days in milk	Milk	Fat	Fat	Conc	Succ for- age	Dry for- age	Pas- ture days	Value of product	Cost of conc	Feed cost	Feed cost/cwt milk	Income over feed cost
	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Pct</u>	<u>Lb</u>	<u>Pct</u>	<u>Lb</u>	<u>Cwt</u>	<u>Cwt</u>	<u>Cwt</u>	<u>Number</u>	<u>Dol</u>	<u>Dol</u>	<u>Dol</u>	<u>Dol</u>	<u>Dol</u>
1962-63-----	4,165	136,781	32.8	83	10,785	3.72	402	37	83	46	147	460	113	219	2.03	241
1963-64-----	3,033	80,172	26.4	83	10,987	3.74	411	40	80	44	143	427	103	204	1.86	223
1964-65-----	6,355	197,385	31.0	84	11,470	3.72	427	41	89	44	---	486	119	228	1.99	258
1965-66-----	7,096	224,616	31.6	84	11,574	3.72	430	42	95	42	---	499	121	237	2.05	262
1966-67-----	7,537	243,943	32.4	84	11,645	3.72	433	43	98	43	---	563	130	242	2.08	321
1967-68-----	5,928	212,380	35.8	84	11,834	3.72	440	44	103	40	130	615	142	259	2.21	357
1968-69-----	7,614	263,703	34.6	84	11,953	3.71	443	46	---	41	123	633	133	243	2.05	391
1969-70-----	7,134	259,195	36.3	84	12,102	3.69	446	47	104	40	116	666	139	249	2.08	417
1970-71-----	6,792	254,890	37.5	84	12,292	3.68	452	48	93	39	106	696	147	258	2.11	439
1971-72-----	6,324	246,148	38.9	84	12,327	3.67	453	49	90	38	106	709	152	265	2.17	444
1972-73-----	6,570	257,026	39.1	84	12,214	3.71	453	49	94	38	96	728	156	277	2.30	450
1973-74-----	6,125	247,527	40.4	84	12,151	3.69	448	48	94	38	97	899	217	367	3.05	533
1974-75-----	5,562	234,692	42.2	84	12,303	3.72	458	47	103	38	90	967	271	478	3.93	489
1975-76-----	7,079	326,135	46.1	85	12,980	3.71	481	49	110	37	92	1,149	283	540	4.20	610
1976-77-----	5,605	280,566	50.1	85	13,166	3.71	488	50	112	33	95	1,266	315	563	4.32	703
1977-78-----	5,876	300,951	51.2	85	13,448	3.68	495	51	116	32	94	1,307	311	569	4.27	738
1978-79-----	6,014	309,028	51.4	85	13,695	3.69	505	53	118	33	84	1,473	326	581	4.27	891
1979-80-----	6,173	320,172	51.9	85	13,864	3.65	506	53	120	33	83	1,659	364	622	4.52	1,037
1980-----	6,428	337,846	52.6	85	13,945	3.65	509	53	120	34	76	1,748	382	648	4.66	1,100

¹ Dashes indicate data unavailable.

Table 16.--Comparison of production of cows on official test, nonofficial test, and all other cows, 1962-80

Test years ¹	Official ²				Nonofficial ²				All other cows ^{3 4}			Superiority: of official: cows		Superiority: of nonoffi- cial cows	
	Herds	Cow-years	Milk	Fat	Herds	Cow-years	Milk	Fat	Cow-years	Milk	Fat	Milk	Fat	Milk	Fat
	Number	Number	Lb	Lb	Number	Number	Lb	Lb	Number	Lb	Lb	Lb	Lb	Lb	Lb
1962-63--	41,937	2,006,534	11,286	434	25,376	726,478	10,606	396	13,817,988	6,844	255	4,442	179	3,762	141
1963-64--	40,670	2,010,144	11,685	447	25,598	752,229	10,885	404	13,206,127	7,148	263	4,537	184	3,737	141
1964-65--	40,075	2,067,581	11,976	457	26,604	818,406	11,402	423	12,409,013	7,353	270	4,623	187	4,049	153
1965-66--	38,879	2,058,592	12,127	462	26,259	839,839	11,472	425	11,613,569	7,530	276	4,597	166	3,942	149
1966-67--	37,683	2,098,919	12,307	468	25,439	825,127	11,607	432	10,818,954	7,756	292	4,551	176	3,851	140
1967-68--	36,869	2,131,929	12,397	471	25,143	847,485	11,847	441	10,144,086	8,035	292	4,362	179	3,812	149
1968-69--	35,617	2,138,953	12,553	476	24,359	842,330	11,932	444	9,588,217	8,319	311	4,234	165	3,613	133
1969-70--	34,308	2,122,011	12,750	483	23,281	839,343	12,185	453	9,101,646	8,701	315	4,049	168	3,484	138
1970-71--	33,996	2,218,402	13,000	489	22,581	836,751	12,413	460	8,853,847	8,848	320	4,152	169	3,565	140
1971-72--	33,197	2,244,685	13,226	496	21,345	805,555	12,544	466	8,725,760	9,135	332	4,091	164	3,409	134
1972-73--	33,578	2,359,611	13,287	499	20,895	806,270	12,488	468	8,456,119	9,155	332	4,132	167	3,333	136
1973-74--	33,146	2,416,669	13,163	493	19,738	783,195	12,353	463	8,097,136	9,047	328	4,116	165	3,306	135
1974-75--	32,222	2,432,961	13,421	505	18,112	749,807	12,503	475	8,037,232	9,146	332	4,275	173	3,357	143
1975-76--	32,232	2,438,365	13,632	511	20,010	945,101	13,104	497	7,703,534	9,248	336	4,384	175	3,856	161
1976-77--	33,755	2,581,164	14,435	539	21,000	1,006,359	13,539	509	7,443,477	9,452	342	4,983	197	4,087	167
1977-78--	34,971	2,704,064	14,631	542	22,768	1,159,776	13,771	516	7,075,160	9,592	341	5,039	201	4,179	175
1978-79--	36,105	2,792,175	14,644	542	22,745	1,201,500	13,847	522	6,845,325	9,434	344	5,210	198	4,413	178
1979-80--	37,526	2,966,558	14,786	547	22,943	1,225,311	13,969	527	6,882,131	10,247	369	4,535	178	3,722	158
1980-----	39,524	3,197,353	14,960	553	23,451	1,282,715	14,080	529	6,654,932	9,968	359	4,992	194	4,112	170

¹ National test year changed in fall of 1980 to be the calendar year. Data included are for records ending any time in 1980. Data for 1980 overlap 1979-80 data by one-third.

² Number of herds and cow-years is enrollment Jan. 1 of second year through 1979-80, and for 1981 in testing year 1980 as reported in the annual participation reports. Number of all cows used in this table included Puerto Rico and Virgin Islands for first time in 1979-80. Figures for enrollment for 1978-79 are different from those in 1979 Participation Report because of a reporting error. Production is from these herd average reports.

³ Derived from national cow population and production figures, excluding heifers not fresh. See D81 Ltr. 55(2) for years before 1979; from 1979, from successive February issues of "Milk Production" and "Cattle," Economics, Statistics, and Cooperatives Service, USDA.

⁴ See D81 Ltr. 55(2) for calculation of milk production before 1975-76. Beginning with 1975-76, production values for cows on all testing plans that include butterfat testing were subtracted from national values.

⁵ Since 1969-70, cow-years were calculated by subtracting Jan. 1 enrollment of tested cows from Jan. 1 estimate of all cows.

Table 17.--Production and value of product for all national milk cows, 1940-80^{1 2}

Year	Milk cows ³		Production per cow			Total milk produced	Total fat produced	Total farm value of milk produced
	Avg. for yr	Dec. avg.	Milk	Fat	Fat			
	Thousands	Thousands	Lb	Pct	Lb	Mil lb	Mil lb	1,000 dol
1940---	23,671	---	4,622	3.97	183	109,412	4,343	1,930,935
1941---	24,288	---	4,738	3.97	188	115,088	4,571	2,364,931
1942---	25,027	---	4,736	3.97	188	118,533	4,704	2,867,340
1943---	25,451	---	4,598	3.97	183	117,017	4,651	3,464,864
1944---	25,597	---	4,572	3.98	182	117,023	4,657	3,567,852
1945---	25,033	---	4,787	3.98	190	119,828	4,764	3,673,034
1946---	24,089	---	4,886	3.97	194	117,697	4,677	4,512,653
1947---	23,329	---	5,007	3.97	199	116,814	4,639	4,866,495
1948---	22,336	---	5,044	3.97	200	112,671	4,478	5,295,154
1949---	22,024	---	5,272	3.96	209	116,103	4,595	4,488,255
1950---	21,944	---	5,314	3.96	210	116,602	4,618	4,431,995
1951---	21,505	---	5,333	3.93	210	114,681	4,505	5,108,110
1952---	21,338	---	5,374	3.90	210	114,671	4,476	5,425,543
1953---	21,691	---	5,542	3.87	215	120,221	4,655	5,101,815
1954---	21,581	---	5,657	3.86	215	122,094	4,717	4,757,275
1955---	21,044	---	5,842	3.84	225	122,945	4,726	4,834,842
1956---	20,501	---	6,090	3.82	233	124,860	4,773	5,075,318
1957---	19,774	---	6,303	3.81	240	124,628	4,744	5,166,860
1958---	18,711	---	6,565	3.78	245	123,220	4,658	5,037,729
1959---	17,901	---	6,815	3.76	256	121,989	4,588	5,037,223
1960---	17,515	---	7,029	3.76	264	123,109	4,628	5,158,116
1961---	17,243	---	7,290	3.74	273	125,707	4,715	5,296,024
1962---	16,842	---	7,456	3.74	280	126,251	4,718	5,182,148
1963---	16,260	---	7,700	3.71	286	125,202	4,645	5,159,474
1964---	15,677	---	8,099	3.70	300	126,967	4,699	5,304,899
1965---	14,953	14,526	8,305	3.70	307	124,180	4,552	5,256,774
1966---	14,071	13,756	8,522	3.69	314	119,912	4,426	5,801,039
1967---	13,415	13,139	8,851	3.69	327	118,732	4,377	6,005,639
1968---	12,632	12,571	9,135	3.67	335	117,225	4,305	6,206,150
1969---	12,307	12,113	9,434	3.67	346	116,108	4,264	6,434,834
1970---	12,000	11,916	9,751	3.66	357	117,007	4,284	6,757,294
1971---	11,839	11,782	10,015	3.66	367	118,566	4,344	7,034,801
1972---	11,700	11,630	10,259	3.67	377	120,025	4,410	7,361,435
1973---	11,413	11,304	10,119	3.66	370	115,491	4,225	8,331,450
1974---	11,230	11,215	10,293	3.66	377	115,586	4,238	5,723,186
1975---	11,139	11,074	10,360	3.68	381	115,398	4,240	10,198,831
1976---	11,032	11,003	10,894	3.66	395	120,180	4,402	11,706,043
1977---	10,945	10,899	11,206	3.65	410	122,654	4,481	12,023,440
1978---	10,803	10,792	11,243	3.67	412	121,461	4,455	12,956,601
1979---	10,743	10,772	11,488	3.66	421	123,411	4,518	14,945,275
1980---	10,815	10,872	11,875	3.65	434	128,425	4,692	16,883,401

¹ Dashes indicate data not collected or used before first appearance in table.² Data through 1959 obtained from Statistical Bulletin 303, Economic Research, 1962; for 1960 through 1964, from "Agricultural Statistics," 1971, p. 381; for 1965 through 1969, from Statistical Bulletin 509, Statistical Research Service; for 1970 through 1974, from Statistical Bulletins 589 and 591, Economics, Statistics, and Cooperatives Service (ESCS, USDA); for 1975 through 1978, from Statistical Bulletin 651, ESCS. Preliminary data for cow numbers and production for 1979 and 1980 from successive February issues of "Milk Production," ESCS. Preliminary data for fat production and total farm value of milk produced from "Milk Production, Disposition, Income," ESCS, published in May each year. Final estimates are published at approximately 5-year intervals.³ Excludes data from Puerto Rico and Virgin Islands.

USDA SUMMARY OF 1980 U.S. GOAT HERD AVERAGES

By George R. Wiggans¹

State and national summaries of dairy goat herd averages for milk and fat production have been computed by the U.S. Department of Agriculture (USDA). The averages are from herds that (1) were enrolled in official and nonofficial Dairy Herd Improvement (DHI) plans during 1980, (2) had been on test for at least 365 days prior to their last sample day on or before December 31, 1980, and (3) had does that averaged more than 40 percent days in milk and more than 500 pounds of milk. The percent days in milk is a measure of the proportion of the herd milking and can be affected by reproductive problems, herd turnover rate, and length of dry periods. About 97 percent of the herds summarized were in official test plans: 20 percent in Official DHI and 77 percent in Dairy Herd Improvement Registry (DHIR).

Data in table 1 show that in 1980 there were 11,001.8 doe-years (total days on test for all does divided by 365 days) in 972 herds. Twenty-five herds were excluded by the milk-production or percent-days-in-milk requirement. The values for does per herd were calculated by dividing doe-years by herds for each State and the United States. Nationally the average production on a doe-year basis was 1,643 pounds of milk and 62 pounds of fat. The test year for herd average records was changed to correspond to the calendar year. This change resulted in an overlap of approximately 4 months for the 1979-80 and 1980 test years. The number of herds decreased since the 1979-80 test year by 76 and the number of doe-years by 451.5. The average number of does per herd was 11.3, up since the 1979-80 test year. The increase over the 1979-80 test year's production average was 15 pounds of milk and 1 pound of fat.²

Table 2 presents the distribution of herds by does per herd. Most dairy goat herds were small; almost 67 percent had 10 or fewer does per herd. The most common herd size was 5.1 to 10 does per herd, and the largest total number of doe-years occurred in herds of that size. The 18 herds with more than 50 does per herd (1.9 percent) contained 17.1 percent of the doe-years. The largest herd had 641.7 doe-years. Table 3 gives the distribution of herds by percent days in milk. About 66 percent of the herds had between 71 and 90 percent days in milk. Table 4 shows the distribution of herds by milk production level. Twenty herds had milk production above 3,000 pounds. These herds were below average in number of does and above average in percent days in milk. The highest average milk production was 3,815 pounds by a Saanen herd. The distribution of herds by fat production is in table 5. The highest fat production was 194 pounds by a herd without breed identification.

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² U.S. Department of Agriculture. USDA summaries of 1979-80 goat herd averages. U.S. Dept. Agr. Dairy Herd Impr. Ltr. 56(7), pp. 22-25. 1980.

The average production by breed is in table 6. A single breed was indicated in about 65 percent of the herds. Of the five major breeds, Saanens had the highest milk production, and Nubians had the highest fat production.

Table 1.--State and national doe-year totals and averages, 1980

State	Herds	Doe-years	Does per herd	Days in milk	Milk	Fat	Fat
	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Pct</u>	<u>Lb</u>	<u>Pct</u>	<u>Lb</u>
Alabama-----	6	38.9	6.5	70	1,345	4.2	57
Arizona-----	33	253.6	7.7	74	1,705	3.9	67
Arkansas-----	19	283.6	14.9	70	1,321	3.5	46
California-----	224	3,329.0	14.9	74	1,675	3.6	61
Colorado-----	39	256.9	6.6	75	1,814	3.8	69
Connecticut-----	14	146.7	10.5	81	1,782	3.9	70
Delaware-----	2	10.2	5.1	76	1,259	4.7	59
Florida-----	10	146.4	14.6	69	1,144	3.4	39
Georgia-----	11	57.0	5.2	70	1,462	4.4	64
Idaho-----	2	13.8	6.9	85	1,677	3.8	63
Illinois-----	7	97.3	13.9	79	1,876	3.7	70
Indiana-----	11	88.5	8.0	76	1,481	3.8	57
Iowa-----	15	242.6	16.2	73	1,738	3.6	62
Kansas-----	7	46.6	6.7	75	1,572	4.2	65
Louisiana-----	2	10.9	5.4	92	1,771	4.9	87
Maine-----	32	307.7	9.6	81	1,587	3.7	58
Maryland-----	28	229.8	8.2	73	1,582	3.5	56
Massachusetts-----	21	137.5	6.5	79	1,636	3.8	61
Michigan-----	8	136.0	17.0	75	1,738	4.1	71
Minnesota-----	14	173.8	12.4	82	1,786	3.9	69
Missouri-----	17	292.3	17.2	73	1,589	3.6	58
Montana-----	7	25.6	3.7	79	2,195	3.7	81
Nebraska-----	2	6.6	3.3	73	1,651	3.3	54
Nevada-----	12	79.8	6.6	71	1,778	3.6	63
New Hampshire-----	14	71.9	5.1	82	2,071	3.5	73
New Jersey-----	10	171.8	17.2	82	1,773	3.6	63
New Mexico-----	12	92.5	7.7	75	1,894	3.5	67
New York-----	45	377.7	8.4	79	1,851	3.8	70
North Carolina---	8	86.3	10.8	82	1,774	3.4	61
Ohio-----	35	250.4	7.2	71	1,414	3.9	56
Oklahoma-----	15	273.5	18.2	73	1,551	3.8	59
Oregon-----	123	1,074.7	8.7	75	1,702	4.2	71
Pennsylvania-----	14	217.2	15.5	71	1,414	3.8	54
Rhode Island-----	7	90.2	12.9	82	1,660	3.5	59
South Carolina---	2	34.8	17.4	80	1,615	3.7	61
Tennessee-----	10	83.0	8.3	76	1,719	3.7	63
Texas-----	22	298.2	13.6	72	1,457	4.3	63
Vermont-----	5	120.2	24.0	83	1,727	3.5	61
Virginia-----	16	130.8	8.2	75	1,649	3.9	65
Washington-----	47	475.7	10.1	75	1,780	3.9	69
West Virginia---	1	8.6	8.6	72	1,383	3.3	46
Wisconsin-----	43	733.2	17.1	79	1,413	3.7	52
United States---	972	11,001.8	11.3	75	1,643	3.8	62

Table 2.--Distribution of goat herds by does per herd, 1980

Does per herd	Herds		Doe-years	
	<u>Number</u>	<u>Pct</u>	<u>Number</u>	<u>Pct</u>
Less than 5.1-----	290	29.8	1,023.4	9.3
5.1 - 10.0-----	360	37.1	2,593.0	23.6
10.1 - 15.0-----	139	14.3	1,687.3	15.3
15.1 - 20.0-----	82	8.4	1,401.0	12.7
20.1 - 25.0-----	31	3.2	700.9	6.4
25.1 - 30.0-----	23	2.4	624.2	5.7
30.1 - 35.0-----	11	1.1	347.8	3.2
35.1 - 40.0-----	9	.9	345.1	3.1
40.1 - 45.0-----	5	.5	214.4	1.9
45.1 - 50.0-----	4	.4	182.6	1.7
More than 50.0-----	18	1.9	1,882.1	17.1
Total-----	972	100.0	11,001.8	100.0

Table 3.--Distribution of goat herds by percent days in milk, 1980

Days in milk		Herds	
<u>Pct</u>		<u>Number</u>	<u>Pct</u>
41 - 50-----		20	2.1
51 - 60-----		67	6.9
61 - 70-----		181	18.6
71 - 80-----		324	33.3
81 - 90-----		318	32.7
91 - 100-----		62	6.4
Total-----		972	100.0

Table 4.--Distribution of goat herds by milk production, 1980

Milk	Herds	
	<u>Lb</u>	<u>Number</u> <u>Pct</u>
501 - 1,000--	46	4.7
1,001 - 1,500--	279	28.7
1,501 - 2,000--	360	37.0
2,001 - 2,500--	215	22.1
2,501 - 3,000--	52	5.4
More than 3,000--	20	2.1
Total-----	972	100.0

Table 5.--Distribution of goat herds by fat production, 1980

Fat	Herds	
	<u>Lb</u>	<u>Number</u> <u>Pct</u>
Less than 26---	2	0.2
26 - 50---	176	18.1
51 - 75---	504	51.9
76 - 100---	237	24.4
101 - 125---	46	4.7
More than 125---	7	.7
Total-----	972	100.0

Table 6.--Average milk and fat production by breed, 1980

Breed	Herds	Doe-years	Milk	Fat	
	<u>Number</u>	<u>Number</u>	<u>Lb</u>	<u>Lb</u>	<u>Pct</u>
Alpine-----	179	1,797.0	1,851	67.6	3.7
Experimental----	4	26.0	2,073	76.8	3.7
La Mancha-----	28	260.2	1,629	61.4	3.8
Nubian-----	278	2,278.9	1,517	68.1	4.5
Saanen-----	61	558.2	1,916	66.6	3.5
Toggenburg-----	78	773.5	1,903	63.6	3.3
Mixed ¹ -----	344	5,308.0	1,558	56.4	3.6
All breeds-----	972	11,001.8	1,643	61.8	3.8

¹ Includes herds with breed not reported.

USDA SUMMARY OF 1980 MEXICAN COW HERD AVERAGES

By Pedro G. Cisneros, George R. Wiggans, and Gerald J. King¹

Milk production averages were computed for Mexico on a State and national basis by the U.S. Department of Agriculture (USDA). Data were from dairy cows in 137 Mexican herds that have records processed at U.S. dairy records processing centers. The test year for these herds ended in calendar year 1980. There were 135 Holstein herds, 1 Jersey herd, and 1 herd with more than 1 breed. The frequencies of herds by type of testing plan were--

DHIR -----	131
Official DHI -----	3
Owner-Sampler -----	2
Alternate AM/PM -----	1

The testing program was conducted by Holstein-Friesian de México, the Mexican Holstein association, and approximately 5 percent of the cows in Mexico were enrolled.²

Herd average records represented actual production. The average was the estimated herd production for 365 days divided by the number of cow-years on test (the total number of days on test for all cows in the herd divided by 365 days). These production averages represented the actual amount of milk produced and were not adjusted for such environmental influences as age or season of calving. State and national averages were weighted by cow-years per herd and, therefore, represented the average cow, not the average herd. All values were reported in kilograms, the yield measure used in Mexico.

Averages from 47,159.1 cow-years are in table 1, with 16 States represented. Guanajuato, which is northwest of Mexico City, accounted for 24 percent of the herds and approximately 17 percent of the cow-years in the testing program; the neighboring State of Querétaro accounted for 15 percent of the herds and approximately 16 percent of the cow-years in the testing program. Herds ranged from 5.8 to 2,199.5 cow-years, with an average of 344.2 cow-years. Average milk production was 5,740 kg. Baja California Norte, which borders California, had the highest production average with 6,495 kg of milk. Fat percentage was not measured in these herds. The percent days in milk was computed from the number of cow-days in milk divided by the number of cow-days on test and is a measure of the proportion of the herd that was milking.

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² Holstein-Friesian de México, A.C. Libro suplementario de registro, Cir. No. 3, Enero 1980. Mex. Holstein 11(86): 20. 1980.

Percent days in milk by herd ranged from 74 to 91 percent, with an average of 85 percent. Reproductive problems, replacement rate, and length of dry periods affected percent days in milk.

Table 2 shows the distribution of herds and cow-years by cow-years per herd. Approximately 46 percent of the herds had between 101 and 400 cow-years, and approximately 33 percent of the herds were larger than 400 cow-years. The number of cow-years increased as herds increased to 501-600 cow-years and then decreased with larger herds. Approximately 49 percent of the cow-years occurred in herds of 301-700 cow-years per herd, and the rest were divided evenly between the larger and smaller herds. In contrast, the number of herds decreased as herd size increased.

Table 3 shows the distribution of herds by average production. Production by herd ranged from 3,360 to 7,592 kg. Most of the herds (68 percent) averaged between 5,001 and 6,500 kg.

The data in this summary represent only information from herds that are enrolled in the testing program. These are the larger, more productive herds in Mexico.

Table 1.--Herds and milk production by State from Mexican herd average records, 1980

State	Herds	Cow-years per herd	Days in milk	Milk
	<u>Number</u>	<u>Number</u>	<u>Pct</u>	<u>Kg</u>
Aguascalientes-----	4	140.5	84	6,227
Baja California Norte---	11	301.2	84	6,495
Chihuahua-----	5	641.6	83	6,043
Coahuila-----	8	548.5	85	5,950
Durango-----	13	468.1	85	6,287
Guanajuato-----	33	238.1	84	5,607
Hidalgo-----	7	372.6	87	5,582
Jalisco-----	3	374.5	82	5,307
México-----	13	437.2	86	5,350
Michoacán-----	7	140.4	84	5,179
Puebla-----	6	174.9	86	4,661
Querétaro-----	21	359.6	86	5,593
Sinaloa-----	1	223.9	83	4,089
Sonora-----	1	1,239.6	84	5,374
Tlaxcala-----	3	236.5	84	4,794
Zacatecas-----	1	573.6	85	6,493
Overall ¹ -----	137	344.2	85	5,740

¹ Values are on a country, not State, basis.

Table 2.--Distribution of herds and cow-years by cow-years per herd, 1980

Cow-years per herd		Herds		Cow-years	
		<u>Number</u>	<u>Pct</u>	<u>Number</u>	<u>Pct</u>
Less than	101-----	29	21.2	1,760.4	3.7
101 -	200-----	29	21.2	4,294.1	9.1
201 -	300-----	17	12.4	4,154.8	8.8
301 -	400-----	17	12.4	5,698.4	12.1
401 -	500-----	12	8.7	5,443.5	11.5
501 -	600-----	11	8.0	5,998.7	12.7
601 -	700-----	9	6.6	5,826.8	12.4
701 -	800-----	3	2.2	2,194.2	4.7
801 -	900-----	3	2.2	2,488.5	5.3
901 -	1,000-----	2	1.5	1,882.6	4.0
1,001 -	1,100-----	2	1.5	2,126.3	4.5
1,101 -	1,300-----	1	.7	1,239.6	2.6
More than	1,300-----	2	1.4	4,051.2	8.6
Total-----		137	100.0	47,159.1	100.0

Table 3.--Distribution of herds by average milk production, 1980

Milk		Herds	
<u>Kg</u>		<u>Number</u>	<u>Pct</u>
Less than	3,501-----	1	0.7
3,501 -	4,000-----	5	3.6
4,001 -	4,500-----	9	6.6
4,501 -	5,000-----	14	10.2
5,001 -	5,500-----	34	24.8
5,501 -	6,000-----	27	19.7
6,001 -	6,500-----	32	23.4
6,501 -	7,000-----	12	8.8
7,001 -	7,500-----	2	1.5
More than	7,500-----	1	.7
Total-----		137	100.0

ERROR COUNTS FOR 305-DAY LACTATION RECORDS, 1980

By George R. Wiggans and Gerald J. King¹

The Animal Improvement Programs Laboratory (AIPL) receives lactation records for cows in production testing plans of the National Cooperative Dairy Herd Improvement Program. Records from official plans are used in computing genetic evaluations of bulls and cows and in research. The in-progress and the 305-day records contribute to genetic evaluations; the latter include terminated records of less than 305 days. In-progress records, which provide information on a cow's production early in lactation, subsequently are replaced by 305-day records. Only information from 305-day records, which are the permanent records of a cow's lactations, is included in this report.

Table 1 gives the number of records excluded from the July 1980 and January 1981 Sire Summaries by State. Counts from the two Summaries were combined because the records were received primarily in 1980. The number of records received from different States may have exceeded the number of cows on test because (1) the same lactation was represented by more than one record when corrected records were submitted, (2) a cow completed two 305-day records in one 12-month period, or (3) a cow's ownership changed. Different editing practices by the dairy records processing centers also have affected the proportion of records with a termination code of 9. (This code indicates that the records should not be used for genetic evaluations because production information is not reliable.)

The number of official 305-day records excluded after comparison with previously submitted records is included in tables 1 and 2 under the column heading "Conflict." This count was obtained by selecting current 305-day records from the file of excluded records. This file also contained replacements, corrections, and records in progress. Therefore, some records submitted for previous runs may have been included.

Table 2 summarizes the data for the States in table 1 with the most official records. The number of errors varied considerably among individual States. Of the 10 States with the most official records, 3 had less than 40.0 percent and 2 had more than 60.0 percent of their records eliminated. The national average was 50.3 percent eliminated.

Among official records, missing sire identification was the major reason the records were excluded. Sire identification during 1980 has improved. The proportion of records excluded because of missing sire identification decreased from 42.5 percent in 1979 to 41.6 percent in 1980.

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Summary

Official 305-day records provide the basic information for the genetic improvement program. Only properly identified records can contribute to genetic evaluations. Additional information from records with complete animal identification would improve the accuracy of genetic evaluations and permit computation of indexes for more cows.

When a record is submitted with an error, such as missing sire identification, only that record is eliminated. However, when a record is compared with other records on the same cow and an error such as different birth dates occurs, all records for that cow are eliminated. In both instances, the error usually can be corrected by either the dairyman or those assisting him, and then the corrected record can contribute to sire and cow evaluation.

Table 1.--Disposition of 305-day records by State, 1980

State ¹	Records			Official records eliminated because of--				Official 305-day records available for Sire Summary	
	Total	Nonofficial ²	Official	Termination code 9 ³	Error ⁵	Zero sire No.	Conflict ⁶	Number	Pct
	Number	Number	Number	Number	Number	Number	Number		
Alabama-----	27,004	1,250	25,754	363	10	16,586	380	8,415	32.7
Alaska-----	474	428	46	1	0	0	1	44	95.7
Arizona-----	47,408	1,291	46,117	1,104	651	32,695	1,308	10,357	22.5
Arkansas-----	14,130	2,960	11,170	1,942	10	4,385	353	4,477	40.1
California-----	488,867	38,141	450,726	20,375	6,095	251,115	12,441	160,797	35.7
Colorado-----	30,606	4,562	26,044	1,997	1,952	10,052	1,534	10,507	40.3
Connecticut-----	32,770	4,591	28,179	8	17	8,386	1,070	18,698	66.4
Delaware-----	6,673	1,068	5,605	1	4	1,867	720	3,013	53.8
Florida-----	49,183	33,719	15,464	607	47	8,524	488	5,798	37.5
Georgia-----	50,818	15,967	34,851	651	34	20,726	922	12,518	35.9
Hawaii-----	7,355	1,746	5,609	72	360	3,458	35	1,684	30.0
Idaho-----	50,336	5,214	45,122	4,601	3,068	21,844	2,077	13,510	29.9
Illinois-----	82,469	10,819	71,650	5,837	320	25,570	2,562	37,348	52.1
Indiana-----	62,073	7,990	54,083	747	172	19,547	2,085	31,532	58.3
Iowa-----	134,464	38,722	95,742	17,571	306	34,040	3,513	40,299	42.1
Kansas-----	59,224	6,001	53,223	4,856	112	19,668	2,048	26,527	49.8
Kentucky-----	34,386	4,139	30,247	774	29	15,570	922	12,952	42.8
Louisiana-----	28,375	383	27,992	515	27	15,224	849	11,387	40.7
Maine-----	31,586	5,173	26,413	7	32	5,525	959	19,890	75.3
Maryland-----	54,324	3,351	50,973	1,152	1,001	13,794	3,141	31,884	62.6
Massachusetts-----	24,166	2,458	21,708	1	17	4,424	823	16,443	75.7
Michigan-----	171,544	49,382	122,162	457	359	59,689	5,838	55,820	45.7
Minnesota-----	316,207	105,982	210,225	13,176	48	72,937	6,054	118,010	56.1
Mississippi-----	22,748	276	22,472	264	11	14,353	560	7,284	32.4
Missouri-----	66,375	8,609	57,766	7,329	112	24,603	1,791	23,921	41.4
Montana-----	7,374	1,108	6,266	566	2,378	1,337	193	1,794	28.6
Nebraska-----	35,208	3,125	32,083	2,360	29	15,736	868	13,085	40.8
Nevada-----	10,126	168	9,958	1,452	1,273	5,394	134	1,705	17.1
New Hampshire-----	17,832	2,701	15,131	6	9	3,172	493	11,451	75.7
New Jersey-----	18,374	2,056	16,318	2	15	4,238	428	11,635	71.3
New Mexico-----	27,102	774	26,328	2,498	1,741	13,476	1,011	7,603	28.9
New York-----	463,911	207,616	256,295	53	246	62,341	7,659	185,996	72.6
North Carolina-----	70,977	3,963	67,014	1,228	87	32,362	1,988	31,349	46.8
North Dakota-----	11,491	1,702	9,789	1,698	5	4,315	337	3,435	35.1
Ohio-----	124,025	26,532	97,493	3,667	2,979	29,666	4,139	57,038	58.5
Oklahoma-----	30,828	1,682	29,146	4,590	38	14,520	874	9,123	31.3
Oregon-----	53,469	5,616	47,853	806	355	25,826	1,699	19,155	40.0
Pennsylvania-----	284,123	84,320	199,803	3,662	2,709	42,940	7,042	143,435	71.8
Puerto Rico-----	21,974	11	21,963	508	39	18,864	144	2,408	11.0
Rhode Island-----	1,613	48	1,565	0	0	464	25	1,076	68.8
South Carolina-----	32,160	1,741	30,419	637	42	14,234	828	14,678	48.3
South Dakota-----	32,437	17,130	15,307	1,455	104	7,093	451	6,200	40.5
Tennessee-----	53,132	236	52,896	545	20	32,039	827	19,465	36.8
Texas-----	68,582	6,803	61,779	1,476	93	37,470	1,569	21,171	34.3
Utah-----	36,035	1,872	34,163	1,806	1,515	16,947	1,269	12,625	37.0
Vermont-----	84,952	21,797	63,155	2	94	16,605	1,865	44,589	70.6
Virginia-----	89,450	1,955	87,495	1,269	90	29,693	2,885	53,560	61.2
Washington-----	103,538	12,622	90,916	2,920	2,110	50,916	2,665	32,307	35.5
West Virginia-----	16,034	982	15,052	3	0	5,252	435	9,360	62.2
Wisconsin-----	586,601	262,213	324,388	13,890	10,709	121,481	7,298	171,058	52.7
Wyoming-----	2,954	121	2,833	382	591	832	142	887	31.3
United States-----	4,177,867	1,023,116	3,154,751	131,889	42,065	1,311,795	99,742	1,569,303	49.7

¹ Includes Puerto Rico.² Includes records with invalid identification correction codes.³ Includes records unusable for reasons other than termination code 9; e.g., test herd, invalid termination code, or missing or unreasonable birth or calving date.⁴ Values also affected by procedures of individual dairy records processing centers. For example, the New York center submits very few records with termination code 9. In contrast, the Iowa center submits many such records.⁵ Includes records with invalid or blank animal identification or blank production information.⁶ Includes records that conflict with previously submitted records or pedigree data in the Animal Improvement Programs Laboratory file; also includes records having production values outside U.S. Department of Agriculture limits.

Table 2.--Official 305-day records and proportion eliminated for 10 States with most official records, 1980

State	Official records	Official records eliminated because of--				Total records eliminated
		Termination code 9	Error	Zero sire No.	Conflict	
	<u>Number</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>
California-----	450,726	4.5	1.3	55.7	2.8	64.3
Wisconsin-----	324,388	4.3	3.3	37.4	2.2	47.2
New York-----	256,295	<.1	.1	24.3	3.0	27.4
Minnesota-----	210,225	6.3	<.1	34.7	2.9	43.9
Pennsylvania----	199,803	1.8	1.4	21.5	3.5	28.2
Michigan-----	122,162	.4	.3	48.9	4.8	54.4
Ohio-----	97,493	3.8	3.1	30.4	4.2	41.5
Iowa-----	95,742	18.4	.3	35.6	3.7	58.0
Washington-----	90,916	3.2	2.3	56.0	2.9	64.4
Virginia-----	87,495	1.5	.1	33.9	3.3	38.8
United States----	3,154,751	4.2	1.3	41.6	3.2	50.3

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